0036,84 8 9 6 **94535490** -94524750 ATTACHMENT 80 Page 1 of 21

GENERAL CHEMISTRY DATA VALIDATION SUMMARY FOR DATA PACKAGE: B098Y7-TMA-628 (923-E418 628GEN.UP2)

TO: 200 UP-2 Project QA Record

March 18, 1994

FR: Thomas Stapp, Golder Associates Inc.

RE: GENERAL CHEMISTRY DATA VALIDATION SUMMARY FOR DATA PACKAGE

B098Y7-TMA-628 (923-E418 628GEN.UP2)

INTRODUCTION

This memo presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the methods of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSES	
B098Y7	10/07/93	SOIL	SEE NOTE 1	
B098Y8	10/07/93	SOIL	SEE NOTE 2	

Notes:

 Indicates the sample was analyzed for Nitrate/Nitrite as N (by colorimetry), and fluoride, chloride, and sulfate anions (by ion chromatography).

Indicates the sample was analyzed for Nitrate/Nitrite as N (by colorimetry).

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

-Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met.

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met.

Completeness. The data package was complete for all requested analyses. A total of two (2) samples were validated in this data package with a total of five (5) determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets the work plan completeness objective of 90 percent.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of data.

REFERENCES

WHC, 1993a, Validation of 200 UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC, 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected. The concentration reported is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample detection limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration may not accurately reflect the sample detection limit. The associated data have been qualified as estimated but should be considered usable for decision making purposes.
- BJ Indicates the constituent was analyzed for and detected at a concentration less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- UR Indicates the constituent was analyzed for and not detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

WHC-SD-EN-SPP-002, REV.2

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: B098Y7-TMA-628	REVIEWER: T. STAPP	DATE: 3-07-94	PAGE 1 OF 1
COMMENTS: WET CHEMISTRY	· · ·		
COMPOUND/ANALYTE	QUALIFIER	SAMPLES AFFECTED	REASON
ALL NITRATE/NITRITE VALUES REPORTED AS LESS THAN (<)	Ū	B098Y7 B098Y8	QUALIFIER APPLIED TO BE CONSISTENT WITH NORMAL REPORTING PRACTICE
		_	
		-	

ATTACHMENT 3 QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

628
Ţ
₹
<u>.</u>
8,
80
1 9e
S.
Pac
ata
Da Da
_
7
Ė
3
e je
D.
ted
ate
Ü
9
-

		Solita	B098Y7		B098YB	
		Date	10-7-93		10-7-93	
		Location	!	ı	;	
		Depth			;	
-		Туж	E- 	,	:	
	-	Comments	:		:	
-	Parameter	Units	Resul t	σ	Result	9
	CHLORIDE	MG/KG	6.000		:	
	FLUORIDE	MG/KG	3.200		:	
	SULFATE	MG/KG	8.000		;	
NITRA	NITRATE+NITRITE-N	MG-N/K	2.450	⊃	2.480	>

Verified 8 3-14-01

e 2	Skinner&Sherman REPORT	Work Order # \$3-10-098
eived: 10/12/93	Results by Sample	
AMPLE ID BO98Y7	SAMPLE # 01 FRACTIONS: A	
	Date & Time Collected <u>10/07/93</u>	Category SOIL
ITR_S<2.45		1
mg N/kg		
AND C TO BOORYS	SAMPLE # 02 FRACTIONS: A	
AMPLE ID <u>8098Y8</u>	Date & Time Collected 10/07/93	
ITR_S <u><2.48</u>		
mg N/kg		
AMPLE ID 8098Y8 DUPL	SAMPLE # 02 FRACTIONS: B	
	Date & Time Collected 10/07/93	
ITR_S <u><2.48</u>		
mg N/kg		
AMPLE ID 8098Y8 SPIKE	SAMPLE # 02 FRACTIONS: C	
	Date & Time Collected 10/07/93	Category <u>SOIL</u>
ITR_S <u>22.1</u> mg_N/kg		
AMPLE ID <u>LCSS</u>	SAMPLE # <u>03</u> FRACTIONS: <u>A</u> Date & Time Collected <u>not spec</u>	
ITR S <u>1.97</u>	-	

Verified \$ 3-7-94





Work Order # A3-10-014

SAMPLE ID 8098Y7

Results by Sample

FRACTION OIE TEST CODE WCCLPS NAME Anions in Solids Date & Time Collected 10/07/93

ANIONS AND	WET CHEM	ISTRY -	SOLIDS	
ANALYSIS	METHOD	RESULT	UNITS	LIMIT
Chloride	300.0	6.0	mg/kg	1.0
Fluoride	300.0	3.2	mg/kg	0.5
Sulfate	300.0	8	mg/kg	5
			T	

FORM I

Verified
83-7-94

ATTACHMENT 4

LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION

GENERAL CHEMISTRY RESULTS

CASE NO. 10-014

Soil Sample #:

B098Y7

Maureen

B098Y9

12/9/93

CASE NARRATIVE

Sample B098Y7 did not exhibit homogeneity. Therefore, the percent RPD for Fluoride was 24.6%.

No other problems were encountered during sample analysis. All QC results were acceptable.

Maureen Parrish

				``_``
Westinghouse Hanford Company		CHAIN (OF CUSTODY	
	L E ROGERS			
Custody#Form Initiator	ROGERS		Telephone 376-7690	
		200-UP-2		-03
Project Designation/Samp	_	200-07-2		
Ice Chest No	<u>-54B</u>		Field Logbook No. <u>EFL-</u>	1041
── Bill of tading/Airbill N		······································	Offsite Property No.	
Method of Shipment OV	<u>ERNIGHT AIR</u>	SERVĪ <u>CĒ</u>		
Shipped to TMA				
Possible Sample Hazards/	Remarks Keep	samples at 4C (SOIL)	HONE WITED	
	^	Sample Identificati	on	
1) -1,250ml -P:CLP; I	IN 10-7-93 IAL Metals, Hg. Ti	B098Y7		
GS:VOA Cبهر، ```	LP			
. 1.250ml aG:Semi . 1.125ml G:Anion	-VOA CLP ns F,Cl;SO4 (EPA	300.0)	•	
125ml P/G:Anior أنَّر أَرُّمُ أَلَّمُ الْحُرَّامُ الْحُرَّامُ الْحُرَّامُ الْحُرَّامُ الْحُرَّامُ الْحَرَّامُ الْحَرَامُ الْحَرَّامُ الْحَرَامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَّامُ الْحَرَامُ الْحَرامُ الْحَرَامُ الْحَرامُ الْحَرامُ الْحَرامُ الْحَرامُ الْحَرامُ الْحَرَامُ الْحَرامُ ال		53.2)	•	
125ml Gw:Keros - است	sene (8015M)	481 . # 8 & . !	17/ 0- 177 0- (0 Ev. 183	
5 Eu-154.Eu	J- 155 .K-40 .Ru- 106	10), Gamma Spec to include,Cs ,Na-22 (RC-30), Total Uranium	(EA-01C) U-235.U-234.U-238 (EP-70	J, EP-71, EP-5) Np-
237,(RC-1	101A, RC-622, EP-	S) Pu-238,Pu-239/240 (EP-80, 9 (PC-24 PC-604) Am-241 Cm-2	EP-81, EP-5) I-129 (RC-25, RC-605) 44 (EP-80, EP-90, EP-91, EP-92, EP	Sr-90 (RC-306, RC-
2, 1,250ml a63	PCB/Dost		, , , , , , , , , , , , , , , , , , ,	70, 6, 7, 60 1,
7,250ml P:CLP;1	TAL Metals,Hg,Ti	•		
1,250ml Gs:VOA (1,250ml aG:Semi-	-VOR-GLP			
1,125ml G:Anior	ns F,Cl,SO4 (EPA. ns NO2,NO3 (EPA 3			
,125ml G:Cyani	ide CLP	33.27		
",125ml Gw:Keros 1,1000ml P/G:Gross	sene (8015M) s alpha/beta (EP-	10), Gamma Spec to include, Cs	= 13 4_Cs+137,Co+60,Eu+152,	
Eu-154.Eu	u- 155 . K - 40 . Ru- 106	i.Na-22 (RC-30), Total Uranium	(EA-01C) U-23 5_U-234_U-238 (EP-70), EP-71, EP-5) Np-
257,(RC-3 303, RC-3	309, RC-304) Tc-9	9 (RC-24, RC-604) Am-241,Cm-2	EP-81, EP-5) 1-129 (RC-25, RC-605) 44 (EP-80, EP-90, EP-91, EP-92, EP	1-93, EP-5) Se-79
 .		0,0		
3) 1-250ml P:CLP;1	TAL Metals,Hg,Ti	SER 10	-7-93	
1,250ml	CLP VOA CLP			•
1.125ml G:Anior	ns F.Cl.SO4 (EPA	500.0 3		
1,125ml P/G:Anior 1,125ml G:Cyani	ns NO2,NO3 (EPA 3 ide CLP	(53.2)		
1,125ml Gw:Keros	sene (8015M)	10), Gamma Spec to include,Cs	-134 Ce-137 Co-60 Cu-152	
Eu-154, Eu	u-155,K-40,Ru-106	i,Na-22 (RC-30), Total Uranium	(EA-01C) U-235,U-234,U-238 (EP-70	
237,(RC-1 303, RC-3	101A, RC-622, EP- 309, RC-304) Tc-9	·5) Pu-238,Pu-239/240 (EP-80, P9 (RC-24. RC-604) Am-241.Cm-2	EP-81, EP-5) I-129 (RC-25, RC-605) 44 (EP-80, EP-90, EP-91, EP-92, EF	1 Sr-90 (RG-306, RC- 2-93, EP-5) Se-79
[] Field Transfer		Chain of Possession		ign and Print Names)
Relinquished by:	m 6-93	Received by J6 Ho6	AU Date/Time:	, ,
Hanney Dag	(0.6)	17 Horas	10-8-93 /	1187
\Relinquished by:	444	Received by H . NA	12 CISO Date/Time;	
The second	343 1/35		4012CAL 10-11-93	8:00
kelinguished by:	77 77 33	Received by:	Date/Time:	<u> </u>
xet induisited by:		Received by:	bace/ i ine :	
Relinquished by:		Received by:	Date/Time:	
			, ·	
		Final Samole Disposi	tion	
Disposal Method:		Disposed by:	Date/Time:	
Comments:				

A-6000-407 (12/90) (EF) WEF061
Chain of Custody

PLEED SAT SATURDAY 10-9-92

CTENED 10/11/93

013

N312030

HANFORD ANALYTICAL SERVICES MANAGEMENT RECORD OF DISPOSITION

ROD-93-0241
Record of Disposition No.

DATE: November 4, 1993

LABORATORY: TMA

PROJECT TITLE/NO.: 200-UP-2 / 93-263

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B098Y7, B098Y9

DESCRIPTION OF EVENT:

On October 25th, HASM received direction regarding samples 8098Y7 and 8098Y9 taken 4-6' from the surface. The entire suite of analyses listed on SAF 93-263 were requested for sample 8098Y7 and VOA's were requested for the trip blank (sample 8098Y9). HASM was informed that samples taken from the 4-6' depth should only have radiochemistry analyses requested since they are apart of a sitewide background study. TMA was subsequently informed to cancel all non-radchem analyses for sample 8098Y7 and cancel the VOA analysis for 8098Y9. On November 3rd, HASM was informed that all of the requested analyses on the Chain of Custody should be performed for samples 8098Y7 and 8098Y9. Due to the delay, two analyses (CN and Hg) exceeded holding time limits.

DISPOSITION OF SAMPLES:

With the customer's consent, TMA was instructed to proceed with all the analyses listed on the Chain of Custody, including CN and Hg which exceeded holding times. The customer understands that data obtained for CN and Hg may be for information only.

APPROVAL SIGNATURES:	a.
Jon W. Ball AndBall	11-4-93
HASM Project Coordinator (Print/Sign Name)	Date
V	
Mark Wasemiller Mak a Marganelle	11/12/93
Technical Representative (Print/Sign Name)	Date
··	
N/A	
Quality Assurance (Print/Sign Name)	Date

	Westinghouse Hanford Company		CI	HAIN OF CUS	TODY	\$ 3-18-9K	
	Custody Form Initiator	L E ROGERS					
	•	ROGERS			hone 376-769	90	
	Project Designation/Samp		0-UP-2	•		0-7-93	
	Ice Chest No.	ML-54B				EFL-1091	
	Bill of Lading/Airbill N				te Property No.		
	Method of Shipment OVI		NICE		te rioperty No.		
		CMIGHT AIR SCE	WICL				
	Shipped to TMA			(071)		n	
	Possible Sample Hazards/	Remarks Keep sar			E NOTE	<i>D</i>	
	Sample Identification						
980 272	1,125mt P/G:Anion 1,1000mt P/G:Gross 3) 1,125mt P/G:Anion	beta (EP-10), Total s NO2,NO3 (EPA 353.2 beta (EP-10), Total s NO2,NO3 (EPA 353.2	Uranium (EA-01C) Uranium (EA-01C) Uranium (EA-01C)	U-235,U-234,U-238 (E	EP-70, EP-71, EP	-5),Tc-99 (RC-24, RC-604 -5),Tc-99 (RC-24, RC-604 -5),Tc-99 (RC-24, RC-604	
Million .	[] Field Transfer o	f Custody	Chain of Po	ssession		(Sign and Print Names	
C	Religiquished by: Dogs		reived by: 16/	66AW	Date/Time: 10-8-93/	1120	
	Retinquished by: IGH	, YM	X	NARCISO IA/NORIAL	Date/Time: 15-11-97	3/8%2	
(Relinquished by:	Re	ceived by:		Date/Time:		
	Retinquished by:	Re	ceived by:		Date/Time:		

Final Sample Disposition

Date/Time:

Disposed by:

Recel SATURDAY : EPENED 10-11-47

Disposal Method:

Comments:

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

WHC-SD-EN-SPP-002, Rev. 2

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

	VALIDATION LEVEL:	A	В	С	D	E
	PROJECT:	200 UP-	2	DATA PACKAGE	: BC98Y7	-TMA-628
	-VALIDATOR:	T. Stann	LAB: TMA	Skinner 88h	DATE: 3-	4-94
	CASE: N3	3-10-030	7	SDG:		
			ANALYSES	PERFORMED		!
	☐ Anions/IC	□ тос	□тох	☐ TPH-418.1	Oil and Grease	Alkalinity
	☐ Ammonia	□ BOD/COD	(d) Chloride (2)	☐ Chromium-VI	□ pH	XNO,NO, 0,2
	B Sulfate 2	□ TDS	☐ TKN	☐ Phoephate	0	c c
	dflucride 2		0	a		0
	SAMPLES/MATR		B09848	3 BC9847	7 / SO	L
	@ B098	17/SO	IL		<u> </u>	
					-	
		-				
		· · · · · · · · · · · · · · · · · · ·			-	
		·				
	1 DATA DACK	AGE COMPLETEN	ESS AND CASE	NADDATTVE		
		verification			(v	es No N/A
				present: .	· · · · · · · · · · · · · · · · · · ·	-
		rative presen		0HO		es No N/A
	Comments:	Pertur	Men by c	OHC.		
			· · · · · · · · · · · · · · · · · · ·			
	·					
			 	·····		
	2. HOLDING T	TMES			<u></u>	
			ccontable?			No N/A
		lding times a		· · · · · · ·		es No N/A
	Olapa Vilia	See HCE	2-1/-	E SUMMA	KT Page	THE LOCAL PROPERTY OF THE PARTY
j -		7000	N E-I (a	Frached)	•	
,						
						
						
	<u> </u>				·	

WHC-SD-EN-SPP-002, Rev. 2

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

	3. INSTRUMENT CALIBRATION			
	Was initial calibration performed for all applicable analyses? Yes	No	N/A	
	Are initial calibration results acceptable? Yes	No	N/A	
	Was a calibration check performed for all applicable analyses? Yes	No	N/A	
	Are calibration check results acceptable? Yes	No	N/A	
	Comments:			
				
				
T.				
T O	4. BLANKS			
SA SANSAN	Were laboratory blanks analyzed?	No	N/A	
	Are laboratory blank results acceptable? Yes	No	N/A	
	Were field/trip blanks analyzed? NOTE Yes	No	N/A	
erner Pany	Are field/trip blank results acceptable?	Nо-	N/A	
	comments: O Field GC including field/trip blanks	م لر	FLE NO	of
	identified in this sample set, but it has been	<u>~e</u>	queste	icli,
	Field GC will be evaluated in the final data	Sin	MINCIPY) .
			·	
	5. ACCURACY			
	Were spike samples analyzed at the required frequency? Yes	No	N/A	
	Are spike recoveries acceptable? . NCTE Yes	No	N/A	
	Were LCS analyses performed at the required frequency? NOTE 2. Yes	No	N/A	
	Are LCS recoveries acceptable?	No	N/A	
	comments: @ QC sheet indicates MS receivery of 95	_	CY NO2/	NO.
	but calculated result is 111% - No qualifier apl			
	6 10 (10 100)	105	. 	
	requected. Reported results appentable with			
	6. PRECISION			
	Were laboratory duplicate samples analyzed			
	at the required frequency?Yes	No	N/A	
		No	N/A	
	Are field duplicate RPD values acceptable? SEE NOTE () Yes	No	N/A	
	Are field split RPD values acceptable? Yes	Мo	(N/A)	

WHC-SD-EN-SPP-002, Rev. 2

GENERAL CHEMISTRY DATA VALIDATION CHECKLIST

Co	omments: O Field QC including field duplicate /splits
	have been requested. Field OC data will be evaluated
	n the final data Summary.
7	. ANALYTE QUANTITATION
	as analyte quantitation performed properly? Yes No N/A comments:
8.	REPORTED RESULTS AND DETECTION LIMITS
	re_results_reported for all_requested_analyses? Yes No N/A
	re results supported in the raw data?
	re results calculated properly? Yes No N/A
	omments: No N/A

HOLDING TIME SUMMARY

		<u> </u>		, , , , , , , , , , , , , , , , , , ,	}	•**	0.00	
	sog: B098Y7-	TMA+628	VALIDATOR:	Tom S	taN	DATE: 3-7-94	PA	GEOF
	COMMENTS:		!					
	FIELD SAMPLE	ANALYSIŞ TYPE	DATE SAMPLED	DATE : PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
	B09847	NO2/NO3	10-7-93	10-18-93	10-19-93	11 :	12	None-
	B098 Y8	NO2/NO3	10-7-93	10-18-93	10-19-93	// :	12	None-
			·			.'		
	B098Y7	Fluoride	10-7-93	10-26-93	10-76-93	19	19	None.
	BO98 18-	Chloride					1	
1		Sulfate		1		V	4	↓
					·			
							,	
			'					
I								
_								

780.222 K

GENERAL GC DATA VALIDATION SUMMARY FOR DATA PACKAGE: B098Y7-TMA-628 (923-E418 628EXTR.UP2)

MEMORANDUM



TO: 200 UP-2 Project QA Record

March 18, 1994

FR: Thomas Stapp, Golder Associates Inc.

RE: GENERAL GC DATA VALIDATION SUMMARY FOR DATA PACKAGE

B098Y7-TMA-628 (923-E418 628EXTR.UP2)

INTRODUCTION

This memo presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the methods of analysis is provided in the following table.

SAMPLE-ID	SAMPLE DATE	MEDIA	ANALYSES
B098Y7	10/07/93	SOIL	SEE NOTE 1
Notes:	•		
1. Indicates the 8015M.	sample was analyz	ed for extractable fuel hydro	carbons (kerosene range) by SW-846 method

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met.

S 3 lodã

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw-data

Detection Limits. Detection limit goals were met.

Completeness. The data package was complete for all requested analyses. A total of one (1) sample was validated in this data package with a total of one (1) determination reported, which was deemed valid. This results in a completeness of 100 percent which meets the work plan completeness objective of 90 percent.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

The following minor deficiency was identified during data validation which required qualification of data.

Holding Time

The holding time of 40 days for extractable fuel hydrocarbons was exceeded,
 therefore the result for sample B098Y7 has been qualified as estimated (UJ).

REFERENCES

WHC, 1993a, Validation of 200 UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750.

Westinghouse Hanford Company, Richland, Washington.

WHC, 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING OUALIFIERS

- B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
- NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

WHC-SD-EN-SPP-002, REV.2

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: B098Y7-TMA-628	REVIEWER: T. STAPP	DATE: 3-14-94	PAGE 1 OF 1
COMMENTS: EXTRACTAB	LE FUEL HYDRO	CARBONS	
COMPOUND/ANALYTE	QUALIFIER	SAMPLES AFFECTED	REASON
EXTRACTABLE FUEL HYDROCARBONS	UJ	B098Y7	HOLDING TIME EXCEEDED
		<u>.</u>	

ATTACHMENT 3

QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

				İ
		Sampil	B098Y7	
		Date	10-7-93	
-		Location	:	
		Depth	;	
		2	•	
		Comments	:	
	Parameter	Units	Result	
	KEROSENE	MG/KG	5,000	3

Verified & 3-15-94

REPORT

Received: 10/11/93

Results by Sample

SAMPLE ID B098Y7

180-172-16

FRACTION 01H TEST CODE 8015MS NAME EPA 8015M EXTRACT. Date & Time Collected 10/07/93 Category _

MODIFIED 8015 - EXTRACTABLE FUEL HYDROCARBONS

Matrix: SOIL

Date Analyzed: 12/01/93

Dilution factor: 1.00

Concentration Units: mg/Kc

以丁

Compound	Result	POL
Kerosene Range	ND	5.0
C10 - C16 Jet Fuel Range	NA	АИ
C9 - C22 Diesel Range	АИ	N A
Hydraulic Range	AK	АИ

ND = Not detected at the specified limits

form 1

Verified 7 3-18-94

009

ATTACHMENT 4 LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION

	· · ·	\mathcal{L}	DOGOZA
Westinghouse Hanford Company	CH <i>A</i>	AIN OF CUSTODY	-3-18-
Custody#form Initiator	L E ROGERS		
-	ROGERS	Telephone 376-7690	
Project Designation/Sampl		Collection Date 10-	7-93
	-54B	Field Logbook NoEFI	-1091
Bill of Lading/Airbill No		Offsite Property No	
	RNIGHT AIR SERVICE	_	
Shipped to TMA		-	
	emarks Keep samples at 4C (SC	III) MONE NOTED	
POSSIBLE SAMPLE HAZALGS/K	Sample Identi		
1,250mi F.CLP:IA 250ml GS:VOA CL 250ml aG:Semi-1 125ml G:Anions 125ml G:Cyanio 125ml G:Cyanio 125ml Gw:kerose 1,1000ml P/G:Gross Eu-154,Eu- 237,(RC-10 303, RC-30 303, RC-30 303, RC-30 1,250ml G:VOA Cl 1,250ml G:VOA Cl 1,250ml G:Anions 1,125ml G:Anions 1,125ml G:Cyanion	P/OA CLP 5 F,C1,SO4 (EPA 300.0) 5 NO2,NO3 (EPA 353.2) de CLP ene (8015M) alpha/beta (EP-10), Gamma Spec to incl -155,K-40,Ru-106,Na-22 (RC-30), Total U 01A, RC-622, EP-5) PU-238,PU-239/240 (E 09, RC-304) 1c-99 (RC-24, RC-604) Am-24 PCB Pest AL Metals,Hg,Ti LP VOA CLP 5 F,C1,SO4 (EPA 300.0) 5 NO2,NO3 (EPA 353.2)	ranium (EA-01C) U-235,U-234,U-238 (EP-P-80, EP-81, EP-5) I-129 (RC-25, RC-60, I, Cm-244 (EP-80, EP-90, EP-91, EP-92, Ude, Cs-134, Cs-137, Co-60, Eu-152, Iranium (EA-01C) U-235, U-234, U-238 (EP-P-80, EP-81, EP-5) I-129 (RC-25, RC-6)	P-70, EP-71, EP-5) Np- 05) Sr-90 (RC-306, RC- EP-93, EF-5) Se-79
1,125ml P/G:Anion: 1,125ml G:Cyanion: 1,125ml Gw:Keros: 1,1000ml P/G:Foross Eu-154,Eu 237.(RC-1	LP VOA CLP s F,Cl,SO4 (EPA 300-C) s NO2,NO3 (EPA 353.2)	Jranium (EA-01C) U-235,U-234,U-2 38 (EP :P-80, EP-81, EP-5) I-129 (RC-25, RC-6	05) Sr-90 (RG-306, RC-
[] Field Transfer o	f Custody Chain of Poss	ession	(Sign and Print Names)
Relinquished by:	to-0-93 Received by J6	HOGA- Date/Time: 10-6-93	/ 11/Z
Relinquished by:	bearing H	· Mars SP Date/Time: /	_
17 Hogan 108	135 The 725 Th	ad/ MORCAL 10-11-93	8:00
kelinquished by:	Réceived by:	Date/Time:	
Relinquished by:	Received by:	Date/Time:	

Final Sample Disposition

Date/Time:

Disposal Method:

Comments:

10/11/93 5274RDAY (18NED)

Disposed by:

-011

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-014

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 11, 1993

1.0 DESCRIPTION OF CASE :

Two soil samples were analyzed for TCL Organics - Volatiles, Semivolatiles, and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, - Revision-OLMO1-8: - The Total Petroleum Hydrocarbons in the Kerosene range (K) were analyzed according to the SW-846 Method 8015M.

2.0 SAMPLE LIST :

		ANALYSIS	
WESTINGHOUSE ID	<u>LAB ID</u>	REQUESTED	<u>MATRIX</u>
B098Y7	A3-10-014-01A	v	SOIL
B098Y7	A3-10-014-01B	SV	SOIL
B098Y7 MS	A3-10-014-01C	sv	SOIL
B098Y7 MSD	A3-10-014-01D	SV	SOIL
B098Y7	A3-10-014-01H	K	SOIL
B098Y7 MS	A3-10-014-01I	K	SOIL
B098Y7 MSD	A3-10-014-01J -	· · · · K	SOIL
B098Y7	A3-10-014-01K	₽	SOIL
B098Y7 MS	A3-10-014-01L	Ď	SOIL
B098Y7-MSD	A3-10-014-01M	p	SOIL
B098Y9	A3-10-014-02A	V	SOIL
B098Y9 MS	Ā3-10-014-02B	V	SOIL
B098Y9 MSD	A3-10-014-02C	V	SOIL

3.0 COMMENTS:

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received intact and properly documented.

On October 23, 1993, the Westinghouse Hanford Company cancelled the analysis of samples B098Y7 and B098Y9, despite the fact that the Volatile samples had already been analyzed, and the samples were extracted for Semivolatiles, Pesticides, and Extractable Hydrocarbons. On November 3, 1993, TMA/ARLI, in accordance with ROD-93-0241, reinitiated the analyses and reporting of the aforementioned samples.

753-18-94 000073

B.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All BFB tunes were injected directly into the GC/MS - instrument.

-- 3.2.2 - SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times. No TCL analytes were detected in the samples.

All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 11/02/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by a single injection into a dual column system.

During the analysis sequence, the Autosampler malfunctioned, - and after the injection of the PIBLKs and the PEMs, the sequence was continued. The %RSD for all of the analytes were within the QC limits on both of the GC columns, with the exception of alpha- and delta-BHC on the DB-608 column, which were slightly above 20%-but less than the 30% limit.

Several Aroclor standards were injected throughout the sequence in order to confirm the presence of Aroclors in the samples. Although the retention times for some peaks exceeded their retention time window, the identification of each Aroclor was based primarily on the pattern recognition for each peak in the chromatogram.

All of the other QC criteria were within the limits specified by the EPA CLP SOW.

23-18-99

The chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times.

The TCX surrogate recoveries on the DB-608 column for samples B098Y7MS and B098Y7MSD were slightly below the advisory QC limits. However, the TCX recoveries on the DB-1701 column were higher for all of the samples in comparison to the DB-608 column, due to the interference peaks that coeluted with TCX on the DB-1701 column, therefore yielding higher recoveries. The %D between the two GC columns, for TCX in the spiked and unspiked samples, were greater than the 25% limit. The DCB recoveries on the two GC columns were comparable for all of the samples.

All of the other QC results were within the limits specified by the USEPA CLP SOW.

3.2.4 TOTAL PETROLEUM HYDROCARBONS "KEROSENE RANGE" COMMENTS :

SEQUENCE NOTES :

The sequence was started on 12/01/93, with the injection of a continuing calibration, and was analyzed according to the SW-846 Method 8015M. The instrument calibration was performed on 11/18/93 with the injection of 5 different levels of the Kerosene standard. The %RSD for the initial calibration, and the %D for the continuing calibration were all within their respective QC limits as specified by the SW-846 Method 8015M. respectively.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted within the SW-846 holding time. However, the sample extracts were analyzed 10 days outside of the holding time due to laboratory miscommunication. The laboratory has taken the appropriate steps to ensure that this will not happen again. No Kerosene was detected in the samples.

Sample B098Y7 was spiked with Kerosene. The matrix spike recovery in B098Y7MS was 61%, and 59% in sample B098Y7MSD. A blank spike, KLCS1014S, was prepared and analyzed at the same time, and had a 70% recovery.

All of the QC results were within the limits specified by the SW-846 Method 8015M.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth CLP Program Manager

Maureen Parrish 12/14/93

Program Manager

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

GENERAL GC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	С	D	E E
PROJECT:	200 UP-	2	DATA PACKAGE	: B09847-	TMA - 628
VALIDATOR:	TStapp	LAB: TIM	Α	DATE: 3-	14-94
CASE:			SDG:	-	
	/ /	* * ANALYSES	PERFORMED		
□ 8010	# 8015 1100 He	□ 8020	□ 8021	8140	8141
3 8150	E3-8151	D WTPH-HCID	☐ WTPH-G	□ WTPH-D	- 0
ם	0	0	0	0	0
1. DATA PACK Is technical Is a case nar Comments: (rative presen	documentation	present? N	-	es No N/A
2. HOLDING T Are sample ho Comments:	lding times a				

GENERAL GC DATA VALIDATION CHECKLIST

3.	INSTRUMENT CAI						
3.1	INITIAL CALIF	BRATION				\sim	
Was	an initial ca	libration perfo	ormed?			Yes 1	No N/A
Are		or calibration eptable?	•			Yes I	No N/A
Comn	ents:						
							
3.2	CONTINUING CA	ALIBRATION					
Was	a continuing o	calibration che	eck perfor	med?		Yes	No N/A
		calibration or				Yes	No N/A
	ents:		•				,,
					····		·····
					 		
	<u> </u>			· · · · · · · · · · · · · · · · · · ·			
	DIANIVO						
	BLANKS	lanks analyzada					
Were	laboratory bl	lanks analyzed?			_		No. N/A
Were Are	laboratory blaboratory bla	ank results acc	eptable?		_	Yes	NO N/A
Were Are Were	laboratory bla laboratory bla field/trip bl	ank results acc lanks analyzed?	ceptable?	Note O		Yes N	NO N/A
Were Are Were Are	laboratory bla laboratory bla field/trip bla field/trip bla	ank results acc lanks analyzed? ank results acc	ceptable?	Note (D.		Yes N Yes N	N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bla laboratory bla field/trip bla ents:	ank results acc lanks analyzed? ank results acc eld (sa	ceptable? ceptable? mples	vote ()	t iden	Yes M Yes M Yes M	N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bladoratory blad field/trip bladents: Same	ank results according to the set of the set	ceptable? ceptable? mples int www.	note () were no e been	t iden	Yes M Yes M Yes M Hified	NO N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bladoratory blad field/trip bladents: Same	ank results acc lanks analyzed? ank results acc eld (sa	ceptable? ceptable? mples int www.	note () were no e been	t iden	Yes M Yes M Yes M Hified	NO N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bladoratory blad field/trip bladents: Same	ank results according to the set of the set	ceptable? ceptable? mples int www.	note () were no e been	t iden	Yes M Yes M Yes M Hified	NO N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bla laboratory bla field/trip bla ents: () Fin	ank results according to the set of the set	ceptable? ceptable? mples int www.	note () were no e been	t iden	Yes M Yes M Yes M Hified	NO N/A NO N/A NO N/A
Were Are Were Are Comm	laboratory bla laboratory bla field/trip bla ents: Fin Samp will be	ank results according to the set, be evaluated	ceptable? ceptable? mples in the	note () were no e been final c	t iden	Yes M Yes M Yes M Hified	NO N/A NO N/A NO N/A
Were Are Were Comm	laboratory bla laboratory bla field/trip bla ents:	ank results according to the set beto below the set below ted	ceptable? ceptable? mples in the	note () were no e been final c	t iden reques iata S	Yes No Yes No Yes No Yes No CHYMMAY	NO N/A NO N/A NO N/A
Were Are Were Comm 5. Were	laboratory bla laboratory bla field/trip bla ents:	ank results according to the set be evaluated analyzed?	ceptable? ceptable? mples in the	Note (). Note ().	tiden reques iatas	Yes No Yes No Yes No Yes No CHYMMAY	NO N/A NO N/A NO N/A LEI LEI L
Were Are Comm 5. Were Are Were	laboratory bla laboratory bla field/trip bla field/trip bla ents:	ank results acclanks analyzed? ank results acceptage Set be evaluated. salyzed?	ceptable? ceptable? mples mples in the	Note (). Were note been final c	t iden reques datas	Yes N Yes N Yes N Hifiell Hod. F Cummar	N/A NO N/A NO N/A NO N/A N/A
Were Are Comm 5. Were Are Were	laboratory bla laboratory bla field/trip bla field/trip bla ents:	ank results according to the set beto below the set below ted	ceptable? ceptable? mples mples in the	Note (). Were note been final c	t iden reques datas	Yes M Yes M Yes M Hed. F Cumman Yes M Yes M	N/A NO N/A NO N/A N/A N/A N/A N/A N/A
Were Are Comm 5. Were Are Were Are	laboratory bla laboratory bla field/trip bla field/trip bla ents: Fin Sents: Sorre ACCURACY surrogates an surrogate reco MS/MSD sample MS/MSD recover	ank results acclanks analyzed? ank results acceptage Set be evaluated. salyzed?	ceptable? ceptable? mples in the	Note (). Note (). Note (2)	t iden reques iata S	Yes M Yes M Yes M Hed. F Cumman Yes M Yes M	10 N/A 10 N/A 10 N/A 10 N/A 10 N/A 10 N/A

GENERAL GC DATA VALIDATION CHECKLIST

comments: @ Surrogate Compounds were not acided to samples blanks
or calib. Stads. No qualification applied, see note (2).
2 MS/MSD recoveries are 61% and 59% respectively and will
be acceptable for data package accuracy requirements.
3 LCS recovery @ 70% which is Similar to MS/MSD recoveries and
6. PRECISION qualification will not be applied. Control limits not provide
Are MS/MSD sample RPD values acceptable? NC.TEQ Yes No N/A by L
Are field duplicate RPD values acceptable? NOTE () Yes No (N/A)
Are field split RPD values acceptable? Yes No (N/A)
comments: D Field QC including Field duplicate and/or splits
are not identified in this sample set but it has been
requested. Field QC will be evaluated in the final data summary.
2 Lab precision control limits not provided, Inwever good
agreement obtained a 3% RSD RPD and no qualificate will be
7. COMPOUND IDENTIFICATION AND QUANTITATION
Is compound identification acceptable? Yes No N/A
Is compound quantitation acceptable? Yes No N/A
Comments:
8. REPORTED RESULTS AND DETECTION LIMITS
Are results reported for all requested analyses? Yes No N/A
Are all results supported in the raw data? Yes No N/A
Do results meet the CRQLs? NOTED Yes No N/A
comments: CRGL values have not been provided for
Sw-846 analyses.

HOLDING TIME SUMMARY

sog: B09847-	TMA-628	VALIDATOR:	7. Sta	οΛ	DATE: 3-14/94	PAG	E
COMMENTS:	8015	s Analy	sis	T			
FIELD SAMPLE	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
							4, 16 1
B098Y7	8015M	10-7-93	10-14-93	12-01-93	≤14	(55)	Jus
' :				1			1, 1
:							
							'
<u> </u>							,
							······································
		 					
<u> </u>		· · · · · · · · · · · · · · · · · · ·					

INORGANIC DATA VALIDATION SUMMARY FOR DATA PACKAGE: B098Y7-TMA-628 (923-E418 628MET.UP2)

RECENCED RECEIVED

TO: -200 UP-2 Project QA Record

March 18, 1994

FR: Thomas Stapp, Golder Associates Inc.

RE: INORGANIC DATA VALIDATION SUMMARY FOR DATA PACKAGE

B098Y7-TMA-628 (923-E418 628MET.UP2)

INTRODUCTION

This memo presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the methods of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSES	
B098Y7	10/07/93	SOIL	SEE NOTE 1	

Notes:

1. Indicates the samples were analyzed for CLP TAL metals, titanium, and cyanide.

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

Attachment I. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met, with the exception of the ICP serial dilution results as indicated under "Minor Deficiencies" below.

Accuracy. Goals for accuracy were met, with the exception of the matrix spike recoveries as indicated under "Minor Deficiencies" below.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met for all sample results.

Completeness. The data package was complete for all requested analyses. A total of one sample was validated in this data package with a total of 25 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets the work plan completeness objective of 90 percent.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

The following minor deficiencies were identified during data validation which required qualification of data.

Holding Times

• The mercury analysis holding time exceeded the 28 day limit, therefore the mercury result for sample B098Y7 has been qualified as estimated (J).

Blanks

• Silver was detected in the continuing calibration blank, therefore the associated sample result less than five times the blank value has been qualified as undetected (U) as shown in Attachment 2.

Matrix Spike Recoveries

Matrix spike recoveries for antimony, and manganese were unacceptable.
 Attachments 2 and 5 provide a summary of the samples affected, data qualification applied, and supporting documentation.

ICP Serial Dilution

• The zinc serial dilution percent difference exceeded the 10% limit for sample results greater than 50 times the IDL, therefore the result for sample B098Y7 has been qualified as estimated (J).

REFERENCES

WHC, 1993a, Validation of 200 UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC, 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF INORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected. The concentration reported is less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample detection limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration may not accurately reflect the sample detection limit. The associated data have been qualified as estimated but should be considered usable for decision making purposes.
- BJ Indicates the constituent was analyzed for and detected at a concentration less than the contract required detection limit (CRDL) but greater than the instrument detection limit (IDL). Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. Due to a minor quality control deficiency identified during data validation the associated data have been qualified as estimated, but should be considered usable for decision making purposes.
- <u>UR</u> . Indicates the constituent was analyzed for and not detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. Due to a major quality control deficiency identified during data validation, the associated data have been qualified as unusable for decision making purposes.

ATTACHMENT 2 SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: B098Y7-TMA-628	-REVIEWER: T. STAPP	DATE: 3-07-94	PAGE <u>1</u> OF <u>1</u>
-COMMENTS: INORGANIC ANALY	YSIS		
COMPOUND/ANALYTE	-QUALIFIER	SAMPLES - AFFECTED	REASON
MERCURY	BJ	B098Y7	HOLDING TIME EXPIRED
ANTIMONY, MANGANESE	J	B098Y7	MATRIX SPIKE RECOVERY IS BELOW THE 75% LIMIT
ZINC	J	B098Y7	ICP SERIAL DILUTION PERCENT DIFFERENCE EXCEEDS 10%
SILVER	U	B098Y7	CONTAMINANT FOUND IN BLANK

ATTACHMENT 3 QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 8098Y7-TMA-628

	-		
	Samp#	B09817	
,	Date	10-7-93)
. Т	Location		- '
I	Depth		
1	Туре		-
I	Comments	•	-
I	ļ		
Parameter	Units	Result	Q
ALUMINUM	MG/KG	7350000	
ANTIMONIY	MG/KG	2.800	BJ
ARSENT C	MG/KG	8.600	
BARTUM	MG/KG	104000	
BERYLLIUM	MG/KG	0.400	В
CADMIUM	MG/KG	0260	U
CALCIÚM	MG/KG	20400.000	
CHROMIUM	MG/KG	8.400	
COBALIT	MG/KG	11.800	
COPPER	MG/KG	15.800	
IRON	MG/KG	22400.000	
LEAD	MG/KG	7.500	
MAGNESIUM	MG/KG	6990.000	
MANGANESE	MG/KG	415.000	J
MERCUR Y	MG/KG	0.060	BJ
NICKEL	MG/KG	8.400	
POTASSIUM	MG/KG	1200.000	
SELENTUM	MG/KG	0.560	U
SILVER	MG/KG	0.960	ีย
SODIUM	MG/KG	223.000	В.
THALLIUM	MG/KG	0.320	U
PIUI DANAV	MG/KG	55.200	
ZINC	MG/KG	46.600	J
CYANIDE	MG/KG	0.530	U
TITANIUH	MG/KG	1780.000	

Verified 85 3-18-94

	;	INORGANIC AN	ALYSIS DATA	SHEE	Т	5 A M P	LE NUMBER	
- Lab Name :	 SKINNER & SHERM	1AN LABE	Contract	68-	D2-003		8098Y7	
Lap Code	SKINER C	ase No N3-	10-0305A5 No			SDG No	. 8098Y7	
Matrix (so.	il/water) SOIN	-	7	at S	eldme.	ID: 5310	997401 S	
level (low	rmed: 10W			ប៊ ៦	te Pec	eived 1	0/10/93	
4 2 3 1 1	. *	,						
* 201103	93		•					
	loncentration	Units (ug/t	or sg/t; dr	v pe	ight)	MG/KG		
<u> </u>	t	1				: 1 1 1		
947 3225 11872	OAS NO	. Analyte :	Concentratio	nic;	Q			
Ę.	. '	-1		_1 _1			·	
	7429-46-5							
AND	7440-36-0	(Antimony :	2.8	بعا	N'	FJ		
			ž t.				•	
			104					
			0.4					
			0,2					
	17440-76-2	(Calcium)	20490			F		
	17440-47-3	(Chromium (8 4			F		
	17440-48-4	(Cobalt :	11.8			P		
	7440-50-8	Copper	15.8	; ;		¦₽ ¦		
	17439-89-6	(Iron	22400			;P ;		1
****	17479+92+1	ileso :	/ \$; ;		18		
	17459-95-4 17470-0-5	Magnesium	599 <u>6</u>	ن ز		(P)		
	7439-95-3 17439-97-6 	inanganésé:	415	بمسر	N	J		
	17439-97-8	(Meroury)	0.0	٠ - ا		CARL		
	17446-02-0	[Nickel	8 4			ነዶ ¦		
	174410-199-7	(Potassium)	1200					
		Selenium		6 U		P		
	17440-22-4			م الم		PUL		
	17440-23-5		223			IP		1
		Thallium		2 0		P	_ 0	4
		∏Vanadium ¦	55.2			(P)	180	l
	7440-66-6	•	46.6			IF IJ	(5 °	
	7440-32-6	(Cyanide	1746	5 (0)		[CA]	7	1
		· · · · · · · · · · · · · · · · · · ·	178 0 	 _		F	€3-18-A Verifie	
Color Befor	e BROWN	Clarit	y Before:			Texture	FINE	73-8-94
Color After	BROWN	Clarit	y After:			Antifac	ts.	•

Comments

5-18-942

009

-----ATTACHMENT 4

LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION



Skinner & Sherman Labs., Inc.
300 Second Avenue
Post Office Box 527

Waltham, MA 02254-0521

(617) 890-7200

FAX (617) 890-3883

DEC 1993
RECEIVED
SOLA

150E6Z EZ LZ SZ GA

November 23, 1993

TMA/NORCAL
2030 Wright Avenue
Richmond, CA 94804
Attention: Dan Stuermer

Quality Control Narrative

Scope

One (1) soil sample was submitted to TMA/Skinner & Sherman Laboratories, Inc. on October 12, 1993 from TMA/Norcal. The sample was analyzed for the USEPA CLP Target Analyte List metals, titanium and cyanide. The analysis were performed under TMA/Skinner and Sherman work order S310097.

Methodology

The sample was prepared, analyzed and reported in accordance with the USEPA Contract Laboratory Program Statement of Work ILM02.

Discussion

All quality control requirements were met for the samples with the following exceptions:

The matrix spike recovery for antimony and manganese exceeded the control limit requirements.

The ICP serial dilution for zinc exceeded the control limit requirements.

Please feel free to call if there are any questions concerning this package.

Respectfully submitted,

TMA/SKINNER & SHERMAN LABORATORIES, INC.

Steven R. Provencal

Lead Chemist

Nameso

X8 3-13-44 0000000

HANFORD ANALYTICAL SERVICES MANAGEMENT

RECORD OF DISPOSITION

ROD-93-0241
Record of Disposition No.

DATE: November 4, 1993 LABORATORY: TMA

PROJECT TITLE/NO.: 200-UP-2 / 93-263 NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B098Y7, B098Y9

DESCRIPTION OF EVENT:

On October 25th, HASM received direction regarding samples B098Y7 and B098Y9 taken 4-6' from the surface. The entire suite of analyses listed on SAF 93-263 were requested for sample B098Y7 and VOA's were requested for the trip blank (sample B098Y9). HASM was informed that samples taken from the 4-6' depth should only have radiochemistry analyses requested since they are apart of a sitewide background study. TMA was subsequently informed to cancel all non-radchem analyses for sample B098Y7 and cancel the VOA fanalysis for B098Y9. On November 3rd, HASM was informed that all of the requested analyses on the Chain of Custody should be performed for samples B098Y7 and B098Y9. Due to the delay, two analyses (CN and Hg) exceeded holding time limits.

DISPOSITION OF SAMPLES:

With the customer's consent, TMA was instructed to proceed with all the analyses listed on the Chain of Custody, including CN and Hg which exceeded holding times. The customer understands that data obtained for CN and Hg may be for information only.

APPROVAL SIGNATURES:	
Jon W. Ball Anubel	11-4-93
HASM Project Coordinator (Print/Sign Name)	Date
V	
Mark Wasemiller Mark a Margnelle	11/12/93
Technical Representative (Print/sign Name)	Date

Quality Assurance (Print/sign Name)

Date

Westinghouse Hanford Company		СНА	IN OF CUST	ODY	-\$ 3/18/94
Custody Form Initiator	L E ROGERS				
Company Contact <u>LE</u>	ROGERS	<u></u>	Telepho		
Project Designation/Samp	ling Locations	200-UP-2	Collect	tion Date 10-7	<u> 93</u>
Ice Chest No	54B		Field I	Logbook No. <u>EFL-</u>]	091
Bill of Lading/Airbill N	o		Offsit	e Property No.	
Hethod of Shipment OVI	ERNIGHT AIR S	SERVICE	-		
Shipped to TMA					
Possible Sample Hazards/	Remarks Keep	samples at 4C (SO	IL) 1/01/4	E NOTED	
		Sample Identif	ication		· · · · · · · · · · · · · · · ·
1,250ml G:CP; I 1,250ml aG:Semi- 2,250ml aG:Semi- 1,25ml G:Anior 1,125ml G:Cyani 1,125ml G:Cyani 1,125ml Gw:Keros 1,1000ml P/G:Gross Eu-154, Et 237, (RC-1 303, RC-3 1,250ml aG:Semi- 1,250ml aG:Semi- 1,250ml aG:Semi- 1,250ml G:Anior 1,125ml G:Anior 1,125ml G:Cyani 1,125m	VOA CLP IS F,Cl;SO4 (EPA 3 IS NO2,NO3 (EPA 3 IS NO2,NO3 (EPA 3 IS SEPE (8015M) IS alpha/beta (EP- IS SEPE (8015M) IS ALPHA/BETA (EP- IS NO2,NO3 (EPA 3 IS F,Cl;SO4 (EPA 3 IS NO2,NO3 (EPA 3 IS NO3,NO3 (EPA 3 IS NO3,NO3 (EPA 3 IS NO3,NO3 (EPA 3 IS NO3,NO3 (EPA 3 IS N	(0), Gamma Spec to inclu Na-22 (RC-30), Total Ur)) PU-23E, PU-239/240 (EP) (RC-24, RC-604) Am-241 (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0) (00.0)	enium (EA-01C) U-2: -80, EP-81, EP-5) -80, EP-81, EP-5) -80, EP-80, EP-80, EP-80, EP-80, EP-81, EP-81, EP-5)	35,U-234,U-23E (EP-70, I-129 (RC-25, RC-605) -90, EP-91, EP-92, EP- P-60,EU-152, 35,U-234,U-238 (EP-70, I-129 (RC-25, RC-605)	Sr-90 (RC-306, RC- 93, EP-5) Se-79 , EP-71, EP-5) Np- Sr-90 (RC-306, RC-
1,250ml P:CLP;1 1,250ml Gs:VQ4 C 1,250ml aG:Semi 1,125ml G:Anior 1,125ml G:Cyanior 1,125ml G:Cyani 1,125ml G:Keros 1,1000ml P/G:Gross	VOA CLP ns F,Cl,SO4 (EPA 3) ns MO2,NO3 (EPA 3) ide CLP sene (8015M) s alpha/beta (EP- u=155,K-40,Ru=106 101A, RC-622, EP-	596-0)	de,Cs-134,Cs-137,C anium (EA-01C) U-2: -80, EP-81, EP-5)	35,U-234,U-23 8 (EP-70 I-129 (RC-25, RC-605)	Sr-90 (RG-306, RC-
[] Field Transfer of		Chain of Posse	•		on and Print Names)
Relinquished by:	10-8-93	Received by, J6 A	106A2	Date/Time:	/ /
Horens Pogo	7 1133	17 Hogan		10-8-93 /	1122
Relinquished by:	bone /	Received by:	NARUSO	Date/Time:	•
17 Hogan Was	813 1/35°C	125 TK	MORCAL	10-11-93	8:00
delinquished by:		Received by:		Date/Time:	
Re(inquished by:		Received by:		Date/Time:	
	<u> </u>	Final Sample Di	sposition		
Disposal Method:		Disposed by:		Date/Time:	
Comments:		· · · · · · · · · · · · · · · · · · ·			
			· · · · · · · · · · · · · · · · · · ·		

A-6000-407 (12/90) (EF) WEF061 Chain of Custody SATURDAY 10-9-92

CTENED 10/11/93

013

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	В	С	D	E
PROJECT:	200 UP-	2	DATA-PACKAGE	: B09847	-TMA-628
VALIDATOR:	7. Staps	LAB: TMA		DATE: 3-	7-94
-case: √3	-10-030)	SDG:		
/		ANALYSES	PERFORMED		
EZ CLP/ICP	CLP/GFAA	E CLP/Hc	CLP/Cyanide	ם	
[] SW-846/ICP	□ SW-846/GFAA	□ SW-846/Hg	☐ SW-846 Cyanide	D	0
SAMPLES/MATE	IIX BO	98Y7	/SOIL		
					
					
			<u> </u>		
				<u> </u>	
	· · · · · · · · · · · · · · · · · · ·			 _	
. DATA PACK	AGE COMPLETEN	FSS AND CASE	NARRATIVE		
	verification			(v	es No N/A
	rative presen		presenc: .		
comments:	\sim	ned by W	310	• • • • • • • • • • • • • • • • • • • •	es No N/A
.Ommerics	TELTON IV	IBO BY W) H U		
	· 				*
					
. HOLDING T	TMTC			· <u></u>	
					(C) 11/2
re sample no	luing times a	cceptable? .		Y	es (No) N/A
omments:	Hg analy	rsis exc	eeas Non	Ting Time	@ 31 day
ASSOCIATE	d Sample	results	qualified	1 2/UZ.	
	·				
					

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. INSTRUMENT PERFORMANCE AND CALIBRATIONS		
Were initial calibrations performed on all instruments? Yes	No	N/A
Are initial calibrations acceptable? Yes	No i	N/A
Are ICP interference checks acceptable? Yes	No .	N/A
Were ICV and CCV checks performed on all instruments? Yes	No i	N/A
Are ICV and CCV checks acceptable? Yes	No	N/A
Comments:		
		_
4. BLANKS		
Were ICB and CCB checks performed for all applicable analyses? (Yes)	No :	N/A
Are ICB and CCB results acceptable? See victe 2 Yes		N/A
Were preparation blanks analyzed? Yes		N/A
Are preparation blank results acceptable? Yes		N/A
Were field/trip blanks analyzed? See Note. O Yes		N/A
Are field/trip blank results acceptable? Yes	No (
Comments: (Field GC including Field Trip Blanks are n		
with this sample set, but have been requested. Field	₹ <u></u> ((
See blank Summary page B-3. \ Evaluater		
- final do		
	71 (v	<u>- (</u>
5. ACCURACY		
Were spike samples analyzed?	No I	N/A
Are spike sample recoveries acceptable? . See Summary Shetyes		N/A
Were laboratory control samples (LCS) analyzed? Yes		N/A
Are LCS recoveries acceptable?		N/A
Comments:	NO I	ny n
		
		
		
		<u> </u>
		

---INORGANIC-ANALYSIS DATA VALIDATION CHECKLIST

6. PRECISION		
Were laboratory duplicates analyzed? Yes	No	N/A
Are laboratory duplicate samples RPD values acceptable? Yes	No	N/A
Were-ICP serial dilution samples analyzed? Yes	No	N/A
Are ICP serial dilution %D values acceptable? Precision montes (No.	N/A
Are field duplicate RPD values acceptable? Yes	No	N/A
-Are field split RPD values acceptable? Sec. note. 🤃 Yes	No	N/A
comments: (1) Freid 60 including duplicates and/or sy		
not identified with this sample set, but have	<u>9d</u>	Sen
requested. Field GC will be evaluated in the	3	red
data Summary.		
,	<u>,</u>	,
7. FURNACE AA QUALITY CONTROL		
Were duplicate injections performed as required? Yes	No	N/A
Are duplicate injection %RSD values acceptable? Yes	No	N/A
Were analytical spikes performed as required? Yes	No	N/A
Are analytical spike recoveries acceptable? Yes	No	(N/A)
Was MSA performed as required? Yes	No	N/A
Are MSA results acceptable? Yes	No	N/A)
comments: Furnace analysis not performed.		
1		
8REPORTED RESULTS AND DETECTION LIMITS		
Are results reported for all requested analyses? Yes	No	N/A
Are all results supported in the raw data? Yes	No	N/A
Are results-calculated properly? Yes	No	, N/A
Do results meet the CRDLs? Yes	No	N/A
Comments:		,
		
		

	sog: B09847	-TMA-628	VALIDATOR:	7. Sto	P	DATE: 3-7-94 PAGE 1 OF 1		
	COMMENTS:			14rase2				
;	FIELD SAMPLE	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
b 25	B09847	ICP	10-7-93	11-06-93	11-9-93	30	33	NONE
	B09847	CLP/Hq	10-7-93	11-05-93	11-07-93	29	31	T/UJ
		7						
	B09847	CLP/CN.	10-7-93	10-19-93	10-21-93	12	14	NONE
					·			
I PO	B098Y7	ICP	10-7-93	11-06-93	11-19-93	30	43	NONE
					,			
J						,		
					· · · · · · · · · · · · · · · · · · ·			
]				·				<u> </u>
ļ								
}								
}				"	· · · · · · · · · · · · · · · · · · ·			
} }	· · · · · · · · · · · · · · · · · · ·		<u></u>					
ا ج		<u> </u>						
ر 10 م								
∞								

BLANK AND SAMPLE DATA SUMMARY

SDG: BO98	Y7-TMA -628	VALIDATO	R: -	7/5	to 10	DATE: 3	-18-94	PAGE_	1 of 1
COMMENTS:	INCREANIC	ANALY	SE	<u>s</u>	, , , , , , , , , , , , , , , , , , ,	1 3 3 3			
SAMPLE ID	COMPOUND	RESULT	Q	RT	UNITS	5X RESULT	10X RESULT	SAMPLES AFFECTED	QUALIFIER
		:							
CCBZ	Aq	4.8			119/1	24		B09847	U
·	, 	<u> </u>			1 7				
									
						<u>, </u>			
]]				···
		; 							
							······································		
 		 			, 				
					<u> </u>				
			i						
						<u> </u>			

B09847-TMA-628

ACCURACY DATA SUMMARY

SDG:	VALIDATOR: T. Stapp	DATE: 3-18-94		PAGE0F
COMMENTS:				
SAMPLE ID	COMPOUND	% RECOVERY	SAMPLE(S) AFFECTED	QUALIFIER REQUIRED
B09847 ms	Antimony	46.2	B09847	3
ı	Antimony Manganese	48.4	B09847	J
			_	

-021

PRECISION DATA SUMMARY

B09847-TM	M-628	THEO13	ION DATA SUMMARY	, 				
SDG: ↓	VALIDATOR: 7. Stan DATE: 3-8-9				page_ <u>1_of_1</u>			
COMMENTS:	INORGAN	IC ANALYSES	/ Metals, C	CLINIC	91			
COMPOUND		SAMPLE ID:	SAMPLE IO:	RPD-	SAMPLES AFFECTED	QUALIFIER		
Zinc		ICP Serial Dil-		26.1	B09847	J		
1				1				
						,		
						-		
· · · · · · · · · · · · · · · · · · ·					,	<u> </u>		
·		'						
·············	:	· · · · · · · · · · · · · · · · · · ·						
	:	'						
		· · · · · · · · · · · · · · · · · · ·				<u> </u>		
						 		

94535491 94524750 ATTACHMENT 83 Page 1 of 23

PESTICIDE/PCB DATA VALIDATION SUMMARY FOR DATA PACKAGE: B098Y7-TMA-628 (923-E418 628PES.UP2)

NEVENED NEVENED

TO: 200 UP-2 Project QA Record

March 14, 1994

FR: Thomas Stapp, Golder Associates Inc.

RE: PESTICIDE/PCB DATA VALIDATION SUMMARY FOR DATA PACKAGE B098Y7-

TMA-628 (923-E418 628PES.UP2)

INTRODUCTION

This memo presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the methods of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSES					
B098Y7	10/07/93	SOIL	SEE NOTE 1					
Notes:			***					
I. Indicates the samples were analyzed for target compound list (TCL) pesticides and arochlor PCB's.								

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

Attachment 1. Glossary of Data Reporting Qualifiers

Attachment 2. Summary of Data Qualifications

Attachment 3. Qualified Data Summary and Annotated Laboratory Reports

Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5. Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

Precision. Goals for precision were met.

2 3 1994

Accuracy. Goals for accuracy were met.

Sample Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met.

Completeness. The data package was complete for all requested analyses. A total of one (1) sample was validated in this data package with a total of twenty-eight (28) determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets the work plan completeness objective of 90 percent.

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

No minor deficiencies were identified during data validation which required qualification of data.

REFERENCES

- WHC, 1993a, Validation of 200 UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.
- WHC, 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT 1 GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
- NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

ATTACHMENT 2 AS QUALIFIED DATA SUMMARY

68.37%

WHC-SD-EN-SPP-002, REV.2

SDG: B098Y7-TMA-628	REVIEWER: T. STAPP	- DATE: 3-11-94	PAGE <u>1</u> OF <u>1</u>
COMMENTS: PESTICIDE/PCB			
COMPOUND/ANALYTE	-QUALIFIER-	- SAMPLES AFFECTED	REASON
NO QUALIFICATIONS REQUIRED			
	-		
	_		
			<u> </u>

ATTACHMENT 3

QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: 809877-TMA-628

	Samp#	B098Y7	
	Date	10-7-93	
	Location		-
	Depth		-
	Type		-
	Comments		-
Parameter	Units	Result	Q
ALPHA-BHC	UG/KG	1.800	U
BETA-BHC	UG/KG	1.800	U
DELTA-BHC	UG/KG	1.800	Ū
GAMMA-BHC (LINDANE)	UG/KG	1.800	U
HEPTACHLOR	UG/KG	1.800	U
ALDRIN	UG/KG	1.800	U
HEPTACHLOR EPOXIDE	UG/KG	1.800	U
ENDOSULFAN I	UG/KG	1.800	U
DIELDRIN	UG/KG	3.500	U
4,4'-DDE	UG/KG	3.500	U
ENDRIN	UG/KG	3.500	บ
ENDOSULFAN II	UG/KG	3.500	U
4,41-000	UG/KG	3.500	U
ENDOSULFAN SULFATE	UG/KG	3.500	U
4,4'-DDT	UG/KG	3.500	υ
METHOXYCHLOR	UG/KG	18.000	U
ENDRIN KETONE	UG/KG	3.500	U
ENDRIN ALDEHYDE	UG/KG	3.500	U
ALPHA-CHLORDANE	UG/KG	1.800	U
GAMMA-CHLORDANE	UG/KG	1.800	U
TOXAPHENE	UG/KG	180,000	U
AROCLOR-1016	UG/KG	35.000	υ
AROCLOR-1221	UG/KG	72.000	υ
AROCLOR-1232	UG/KG	35.000	Ü
AROCLOR-1242	UG/KG	35.000	Ü
AROCLOR-1248	UG/KG	35.000	U
AROCLOR-1254	UG/KG	35.000	U
AROCLOR-1260	UG/KG	35.000	U
	i 'I		

Verified \$ 3-14-94

53-11-214_00083---

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B098Y7 _____ Contract: WHC Lab Name: TMA/ARLI___ Lab Code: TMALA Case No.: 10014 SAS No.: NA ___ SDG No.: NA Lab Sample ID: A310014-01K Matrix: (soil/water) SOIL Sample wt/vol: - 30.4 (g/mL) G - Lab File ID: % Moisture: 8 decanted: (Y/N) N__ Date Received: 10/11/93 Extraction: (SepF/Cont/Sonc) SONC_ Date Extracted: 10/13/93 Concentrated Extract Volume: ____5000 (uL) Date Analyzed: 11/03/93 Dilution Factor: ___1.00 Injection-Volume: - 1.00 (uL) CONCENT CAS NO. COMPOUND (ug/L 319-84-6-----alpha-BHC Sulfur Cleanup: (Y/N) N CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u> Q 1.8 | U __ 319-85-7----beta-BHC 1.8|U 319-86-8-----delta-BHC 1.8|U 58-89-9----gamma-BHC (Lindane) 1.8|U 76-44-8-----Heptachlor 1.8|U | 309-00-2----Aldrin 1.8 | U 1024-57-3-----Heptachlor epoxide 1.8 U 959-98-8-----Endosulfan I 1.8 U

60=57=1==----Dieldrin 3.5 | U 72-55-9----4,4'-DDE 3.5|0 72-20-8-----Endrin 3.5|U 33213-65-9----Endosulfan II 3.5|U 72-54-8-----4,4'-DDD 3.5|U 1031-07-8-----Endosulfan sulfate 3.5 U 50-29-3-----4,4'-DDT 3.5|ប 72-43-5----Methoxychlor 18 |U | 53494-70-5----Endrin ketone 3.5 U 7421-36-3----Endrin aldehyde 3.5|U 5103-71-9----alpha-Chlordane 1.8 JU | 5103-74-2----gamma-Chlordane 1.8|U _8001-35-2----Toxaphene ---180 --- | U | 12674-11-2----Aroclor-1016 35 U | 11104-28-2----Aroclor-1221 72 | U -| 11141-16-5----Aroclor-1232 35 U 53469-21-9----Aroclor-1242 35 ΙU | 12672-29-6----Aroclor-1248 35 | U | 11097-69-1----Aroclor-1254 35 IU | 11096-82-5----Aroclor-1260 35 | U

Verified #3-11-94

FORM I PEST

3/90

ATTACHMENT 4

LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION

Westing	house
Hanford	Company

	_			
R		3-	18	-94

Hanford Company		CHAII	N OF CUST	ODY	JX 3-13 11
	L E ROGERS				
Custody Form Initiator	ROGERS		 : Telepho	one <u>376</u> -7690	
Company Contact L L	_	00-UP-2	<u> </u>		<u>-03</u>
Project Designation/Samp	Ing Locations 2	00-01-2		tion Date 10-1	-1091
Ice Chest No.	JOTO				1091
Bill of Lading/Airbill N		EDVICE	UTTSITE	e Property No.	
•	RNIGHT AIR S	ERVICE			
Shipped to TMA				- ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Possible Sample Hazards/	Remarks Keep S	amples at 4C (SOII		E NOTED	
-i)	R 10-7-93	Sample Identific	ation		
1,250ml —P.CLP;T ,7250ml aGs:VOA C ,7250ml aG:Semi-	AL Metals,Hg,Ti LP	50,1011			
125ml G:Anion 1,125ml P/G:Anion	is F,Cl,SO4 (EPA 30 is NO2,NO3 (EPA 353	00.0) 6.2)			
125ml G:Cyani 125ml Gw:Keros	ene (8015M)				
Eu- 154, Eu	i-155,K-40,Ru-106,I)), Gamma Spec to include Na-22 (RC-30), Total Uran	ium (EA-010) U-23	35,U- 23 4,U-238 (EP-70	0, EP-71, EP-5) No-
	09, RC-304) Tc-99	Pu-238;Pu-239/240 (EP+8 (RC-24, RC-604) Am-241,C	0, EP+81, EP-5)] m-244 (EP-80, EP-	I-129 (RC-25, RC+605° -90, EP-91, EP-92, EF) \$r-90 (RC-306, RC- P-93, EP-5) \$e-79
303, RC-3 303, RC-3 1,250ml P:CLP:T 1,250ml Gs:V00 C 1,250ml aG:Semi	PCB/Rest				
1,250ml P:CLP:T	AL Metals,Hg,Ti				
1,250ml aG:Semi-		no n x			
1,125ml P/G:Anion	is NO2,NO3 (EPA 353	5.2)			
i,î25ml G:Cyani 1,125ml Gw:Keros	ene (8015M)				
	alpha/bets(EP=10)) <u>, Gamma Spec to include</u> Ha-22 (RC-30), Total Uran			n ep.71 Ep.53 No.
	01A, RC+622, EP+5	Pu-238,Pu-239/240 (EP-8 (RC-24, RC-604) Am-241,C	O, EP-81, EP-5)	1-129 (RC-25 RC-605)-Sr-90 (RC-306, RC-
3)		LOD	10-7-93		_
	AL Metals, Hg, Ti		10-7-93		
1,250ml aG:Semi-	VOA CEP				
1,125ml G:Anion 1,125ml P/G:Anion	s F,Cl,SO4 (EPA 30 s NO2,NO3 (EPA 35				
1,125ml G:Cyani 1,125ml Gw:Keros	de CLP				
1,1000ml P/G:Gross	alpha/beta (EP-10), Gamma Spec to include			-
237,(RC-1	01A, RC-62Z, EP-5	ia-22 (RC-30), Total Uran) Pu-238,Pu-239/240 (EP-8	0, EP-81, EP-5) [I-129 (RC-25, RC-605) Sr-90 (RG-306, RC-
303, RC-3		(RC-24, RC-604) Am-241,C			
				· · · · · · · · · · · · · · · · · · ·	ign and Print Names)
Relinquished by:	to-8-93	17 Hogan	,	Date/Time: 10-8-93 /	11/2
Relinquished by:	bban /	Received by H. h	(X15 C1 20	Date/Time:	
11/ Hogan 20-8	13 1/354	THE THE	MORCAL	10-11-93	8:00
kelinguished by:	İ	Réceived by:	`	Date/Time:	
Datinguished hus		Paceived by		Data/Time-	
Relinquished by:		Received by:		Date/Time:	
	L	Final-Sample Disp	osition		
Disposal Method:		Disposed by:	031(70/1	Date/Time:	
Comments:		J. 1000000 Dy.	1	Dete/ I the:	

A-6000-407 (12/90) (EF) WEF061 Chain of Custody

PREED SAT SATURDAY (TENED 10/11/93

HANFORD ANALYTICAL SERVICES MANAGEMENT

RECORD OF DISPOSITION

ROD-93-0241

Record of Disposition No.

DATE: November 4, 1993----

LABORATORY: TMA

PROJECT TITLE/NO.: 200-UP-2 / 93-263

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS: B098Y7, B098Y9

DESCRIPTION OF EVENT:

On October 25th, HASM received direction regarding samples B098Y7 and B098Y9 taken 4-6' from the surface. The entire suite of analyses listed on SAF 93-263 were requested for sample B098Y7 and VOA's were requested for the trip blank (sample B098Y9); HASM was informed that samples taken from the 4-6 depth should only have radiochemistry analyses requested since they are apart of a sitewide background study. TMA was subsequently Anformed to cancel all non-radchem analyses for sample B098Y7 and cancel the VOA analysis for B098Y9. On November 3rd, HASM was informed that all of the requested Analyses on the Chain of Custody should be performed for samples B098Y7 and B098Y9. Due to the delay, two analyses (EN and Hg) exceeded holding time limits.

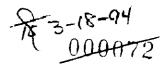
DISPOSITION OF SAMPLES:

Quality Assurance (Print/Sign Name)

With the customer's consent, TMA was instructed to proceed with all the analyses listed on the Chain of Custody, including CN and Hg which exceeded holding times. The customer understands that data obtained for CN and Ho may be for information only.

APPROVAL SIGNATURES:	
Jon W. Ball AndBell	11-4-93
HASM Project Coordinator (Print/Sign Name)	Date
Mark Wasemiller Mark a Masonelle	11/12/93
Technical Representative (Print/sign Name)	Ďate'

Date



CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE: 10-014

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE : October 11, 1993

1.0 DESCRIPTION OF CASE :

Two soil samples were analyzed for TCL Organics - Volatiles, Semivolatiles, and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision-OLM01.8. The Total Petroleum Hydrocarbons in the Kerosene range $-\langle K \rangle$ were analyzed according to the SW-846 Method 8015M.

2.0 SAMPLE LIST :

		<u>ANALYSIS</u>	4
WESTINGHOUSE ID	LAB ID	REQUESTED	MATRIX
B098Y7	A3-10-014-01A	V	SOIL
B098Y7	A3-10-014-01B	SV	SOIL
B098Y7 MS	A3-10-014-01C	SV	SOIL
B098Y7 MSD	A3-10-014-01D	ŞV	SOIL
B098Y7	A3-10-014-01H	K	SOIL
B098Y7 MS	A3-10-014-01I	K	SOIL
B098Y7 MSD	A3-10-014-01J	K	SOIL
B098Y7	A3-10-014-01K	P	SOIL
IIIB098Y7 MS	A3-10-014-01L	· P	SOIL
B098Y7 MSD	A3-10-014-01M	P	SOIL
B098Y9	A3-10-014-02A	V	SOIL
B0-98Y9- MS	A3-10-014-02B	\overline{V}	SOIL
B098Y9 MSD	A3-10-014-02C	V	SOIL

3.0 COMMENTS:

3.1 SHIPPING AND DOCUMENTATION :

All of the samples were received intact and properly documented.

On October 23, 1993, the Westinghouse Hanford Company cancelled the analysis of samples B098Y7 and B098Y9, despite the fact that the Volatile samples had already been analyzed, and the samples were extracted for Semivolatiles, Pesticides, and Extractable Hydrocarbons. On November 3, 1993, TMA/ARLI, in accordance with ROD-93-0241, reinitiated the analyses and reporting of the aforementioned samples.

A 3-18-44 000073

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All BFB tunes were injected directly into the GC/MS instrument.

. 3-2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times. No TCL analytes were detected in the samples.

All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 11/02/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by a single injection into a dual column system.

During the analysis sequence, the Autosampler malfunctioned, and after the injection of the PIBLKs and the PEMs, the sequence was continued. The %RSD for all of the analytes were within the QC limits on both of the GC columns, with the exception of alpha- and delta-BHC on the DB-608 column, which were slightly above 20% but less than the 30% limit.

Several Aroclor standards were injected throughout the sequence in order to confirm the presence of Aroclors in the samples. Although the retention times for some peaks exceeded their retention time window, the identification of each Aroclor was based primarily on the pattern recognition for each peak in the chromatogram.

All of the other OC criteria were within the limits specified by the EPA CLP SOW.

753-18-44

The chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times.

The TCX surrogate recoveries on the DB-608 column for samples E098Y7MS and B098Y7MSD were slightly below the advisory QC limits.—However, the TCX recoveries on the DB-17C1 column were higher for all of the samples in comparison to the DB-608 column, due to the interference peaks that coeluted with TCM on the DB-17C1 column, therefore yielding higher recoveries. The %D between the two GC columns, for TCX in the spiked and unspiked samples, were greater than the 25% limit. The DCE recoveries on the two GC columns were comparable for all of the samples.

All of the other QC results were within the limits specified by the USEPA CLP SOW.

3.2.4 TOTAL PETROLEUM HYDROCARBONS "KEROSENE RANGE" COMMENTS :

SEQUENCE NOTES :

The sequence was started on 12/01/93, with the injection of a continuing calibration, and was analyzed according to the SW-846 Method 8015M. The instrument calibration was performed on 11/18/93 with the injection of 5 different levels of the Kerosene standard. The %RSD for the initial calibration, and the %D for the continuing calibration were all within their respective QC limits as specified by the SW-846 Method 8015M. respectively.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted within the SW-846 holding time. However, the sample extracts were analyzed 10 days outside of the holding time due to laboratory miscommunication. The laboratory has taken the appropriate steps to ensure that this will not happen again. No Kerosene was detected in the samples.

Sample B098Y7 was spiked with Kerosene. The matrix spike recovery in B098Y7MS was 61%, and 59% in sample B098Y7MSD. A blank spike, KLCS1014S, was prepared and analyzed at the same time, and had a 70% recovery.

All of the QC results were within the limits specified by the SW-846 Method 8015M.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer-readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Maureen Parrish /2/14/93 CLF Program Manager Program Manager

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

VALIDATION LEVEL:	Α	В	С	D .	E
PROJECT:	200 UP-	·2	DATA PACKAGE	: BO9847	-TMA-628
VALIDATOR:	-	LAB: TIME	1	DATE: 3-	9-94
CASE: /O-	014		SDG:		
		ANALYSES	PERFORMED		
	☐ SW-846 8080	☐ SW-846 8081	-0		
SAMPLES/MATE	IIX BO	9847 /	SOIL	· · · · · · · · · · · · · · · · · · ·	
		:			
		· 			
			· · · · · · · · · · · · · · · · · · ·		
					
Is a case nar Comments:	rative presen	t?	present? NC		
2. HOLDING T	IMES				
					es No N/A
Comments:	See Fo	rm B-1.			
		AND CALIBRAT E (METHOD 808			
			s acceptable?		
Are DDT and e	ndrin breakdo	wns acceptabl	e?	Y	es No (N/A)

Is the GC/MS tuning/performance check acceptable? Yes	No
Comments:	
3.2 CALIBRATIONS (METHOD 8080 AND 8081)	
Are EVAL standard calibration factors and %RSD values acceptable? Yes	No
Are quantitation column calibration factor %RSD values acceptable? Yes	No
Were the analytical sequence requirements met? Yes	No
Are continuing calibration %D values acceptable? Yes	No
Comments:	
3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW)	
3.3 INSTRUMENT PERFORMANCE AND INITIAL CALIBRATION (3/90 SOW) Was the initial calibration sequence performed?) No
Was the initial calibration sequence performed? Yes) No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes	No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes	No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes	No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? . Yes	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes Are %RSD values in the PEMs acceptable? Yes	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes Are %RSD values in the PEMs acceptable? Yes	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes Are %RSD values in the PEMs acceptable? Yes	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes Are RPD values in the PEMs acceptable?	No No No No
Was the initial calibration sequence performed? Yes Was the resolution acceptable in the resolution check mix? Yes Is resolution acceptable in the PEM, INDA and INDB? Yes Are DDT and Endrin breakdowns acceptable? Yes Are retention times in PEMs and calibration mixes acceptable? Yes Are %RSD values in the PEMs acceptable? Yes	No No No No

Are retention times acceptable in the
PEMs, INDA and INDB mixes? Yes No N/A
Are RPD values in the PEMs acceptable? Yes No N/A
Are the DDT and endrin breakdowns acceptable? Yes No N/A
Was GPC cleanup performed? Yes No N/A
Is the GPC calibration check acceptable? Yes No N/A
Was Florisil cleanup performed? Yes No N/A
Is the Florisil performance check acceptable? Yes No N/A
Comments:
4. BLANKS
Were laboratory blanks analyzed? Yes No N/A
Are laboratory blank results acceptable? See. note. 1 Yes No N/A
Were field/trip blanks analyzed? See note 2 Yes No (N/A)
Are field/trip blank results acceptable? Yes No N/A
- comments: (Methoxychlor in method blank, No qualification
Since Sample results are non-detect. See MR Summery
2) GC field samples not identified with this sample
Set but have been requested. Field QC data will be
evaluated in the final data Summary.
5. ACCURACY
3.10
Are surrogate recoveries acceptable?
Were MS/MSD samples analyzed? Yes No N/A
Are MS/MSD results acceptable?
Were LCS samples analyzed? . See. note Yes No N/A
Are LCS results acceptable? Yes No N/A
comments: (1) LCS analysis not required when MS/MSD
results are present.

6. PRECISION		
Are MS/MSD RPD values acceptable?	No	N/A
Are laboratory duplicate results acceptable? See. Note ① Yes	No (N/A
Are field duplicate RPD values acceptable? See note. 2. Yes	No '	N/A
Are field split RPD values acceptable? Yes	No (N/A
comments: 1 Laboratory duplicate analysis not	100	giuire
since MS/MSD analysis is present.		1
2)-Field-QC Samples not identified w	14 4	this
Sample set, but have been requested. Field	(C) (Liw 1
be evaluated in the final data Summary.		
7. SYSTEM PERFORMANCE		
Is chromatographic performance acceptable? Yes	No	N/A
Are positive results resolved acceptably? . Note C Yes	No	N/A
comments: O All sample results are non-detect.		
!		
8. COMPOUND IDENTIFICATION AND QUANTITATION		
Is compound identification acceptable? Yes	No	N/A
Is compound quantitation acceptable? Yes	No	N/A
Comments:		
		
	7.8	
		
9. REPORTED RESULTS AND QUANTITATION LIMITS		
Are results reported for all requested analyses? Yes	No	N/A
Are all results supported in the raw data? Yes	No	N/A
Do results meet the CRQLs? Yes	No	N/A
Comments:		7
		

HOLDING TIME SUMMARY

SDG:	MH-628	VALIDATOD.		- 0.0	DATE: 3-9-94		1 05 /
	DE 0	VALIDATOR:	-7- St	app	DATE: 57-99	IPAG	E 1 OF /
COMMENTS:	r= 2	I (DE)	LCES /	CLP SCW		<u> </u>	r ilian
FIELD SAMPLE ID	ANAL.YSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER
B09847	Pesticide	10-7-93	10-13-93	11-3-93	≤14	≤40	NONE
				4			
							1
							,
				·			
				·			
				·			

94535496 9452475b ATTACHMENT 79 Page 1 of 55

SEMIVOLATILE ORGANIC DATA VALIDATION SUMMARY FOR DATA PACKAGE: B098Y7-TMA-628 (923-E418 628SEMI.UP2)

TO: 200 UP-2 Project QA Record

April 21, 1994

FR: Thomas Stapp, Golder Associates Inc.

RE: SEMIVOLATILE DATA VALIDATION SUMMARY FOR DATA PACKAGE B098Y7-

TMA-628 (923-E418 628SEMI.UP2)

INTRODUCTION

This memo-presents the results of data validation on data package B098Y7-TMA-628 prepared by TMA laboratory. A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

SAMPLE ID	SAMPLE DATE	MEDIA	ANALYSES	
B098Y7	10/07/93	SOIL	SEE NOTE 1	
Notes:				
1. Indicates	the samples were anal	yzed for target compound list	(TCL) semivolatile organics.	

Data validation was conducted in accordance with the WHC statement of work (WHC 1993a) and validation procedures (WHC 1993b). Attachments 1 through 5 provide the following information as indicated below:

Attachment 1.

Glossary of Data Reporting Qualifiers

Attachment 2.

Summary of Data Qualifications

Attachment 3.

Qualified Data Summary and Annotated Laboratory Reports

Attachment 4.

Laboratory Narrative and Chain-of-Custody Documentation

Attachment 5.

Data Validation Supporting Documentation

DATA QUALITY OBJECTIVES

This section presents a summary of the data quality in terms of the referenced validation criteria.

Precision. Goals for precision were met.

-Accuracy.-Goals for accuracy were met.

Sample-Result Verification. All sample results were supported in the raw data.

Detection Limits. Detection limit goals were met.

Completeness. The data package was complete for all requested analyses. A total of one (1) sample was validated in this data package with a total of sixty-four (64) determinations reported, all of which were deemed valid. This results in a completeness of 100 percent which meets normal work plan objectives of 90 percent.

001

MAJOR DEFICIENCIES

No major deficiencies were identified during data validation which required qualification of data as unusable.

MINOR DEFICIENCIES

The following minor deficiencies were identified during data validation which required qualification of data.

Laboratory Blanks

 Di-n-butylphthalate was detected in the laboratory blank. Attachments 2 and 5 provide a summary of the sample affected, data qualification applied and supporting documentation.

TENTATIVELY IDENTIFIED COMPOUNDS

Tentatively identified compounds (TICs) reported by the laboratory were evaluated during validation and qualified as follows:

- An unknown alkane detected in the sample has been qualified as presumptive and valid (JN).
- TICs were detected in the sample and associated laboratory blank and have been qualified due to associated blank contamination and determined to be presumptive and valid (UJN). Attachments 3 and 5 provide a summary of the sample affected, data qualification applied and supporting documentation.

REFERENCES

WHC, 1993a, Validation of 200 UP-2 Data, Statement of Work, Analytical Laboratory Data Validation, Task Order S-94-18, December 14, 1993, Purchase Order M073750. Westinghouse Hanford Company, Richland, Washington.

WHC, 1993b, Data Validation Procedures for Chemical Analyses, WHC-SD-EN-SPP-002, Rev. 2, 1993. Westinghouse Hanford Company, Richland, Washington.

Revised for 4-21-94 002

ATTACHMENT 1

GLOSSARY OF DATA REPORTING QUALIFIERS

GLOSSARY OF ORGANIC DATA REPORTING QUALIFIERS

- -B Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
 - U Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
 - UJ Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
 - J Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However in either case, the associated data should be considered usable for decision making purposes.
 - NJ Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
 - N Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UJN Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.
- UR Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

0.04

ATTACHMENT 2

SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY - FORM B-7

SDG: B098Y7-TMA-628	REVIEWER: T. STAPP	DATE: 3-14-94	PAGE 1 OF 1
COMMENTS: SEMI-VOLA	ATILE ORGANICS		
COMPOUND/ANALYTE	QUALIFIER	SAMPLES AFFECTED	REASON
DI-N- BUTYLPHTHALATE	Ŭ	B098Y7	DETECTED IN METHOD BLANK
	-		
	_		- <u>-</u>
		72.	
-	-	-	
	.	-	
	-	1	-
	-	-	

Revised 20-94

Revised 20-94

006

ATTACHMENT 3

QUALIFIED DATA SUMMARY and ANNOTATED LABORATORY REPORTS

Validated Data Summary, Data Package: B09877-TMA-628

	r		
	Sanc#	8098Y7	
· · · · · · · · · · · · · · · · · · ·	Date	10-7-93	
1	Location		
1	Depth	· 1 ;	
	Type	i '	
i	Connents	i :	
Parameter	Units	Result:	Q
	 		
PHENOL	UG/KG	350.000	U
BIS(2-CHLOROETHYL)ETHER	UG/KG	350.000	U
2-CHLOROPHENOL	UG/KG	350.000	·U
1,3 DICHLOROBENZENE	UG/KG	350.000	U
1,4-DICHLOROBENZENE	UG/KG	350.00	U
1,2,DICHLOROBENZENE	UG/KG	350.000	U
2-METHYL PHENOL	UG/KG	350.000	ับ
2,21-OXYBIS(1-CHLOROPROPANE)	UG/KG	350.000	U
4-METHYLPHENOL	UG/KG	350.000	U
N-NITROSO-D'I-N-PROPYLAMINE	UG/KG	350.000	U
HEXACHLOROETHANE	UG/KG	350.000	U
NITROBENZENE	UG/KG	350.000	U
1 SOPHORONE	UG/KG	350.000	U
2-NITROPHENOL	UG/KG	350.000	U
2,4-DIMETHYLPHENOL	UG/KG	350.000	U
81S(2-CHLORDETHOXY)METHANE	UG/KG	350.000	U
2,4-DICHLOROPHENOL	UG/KG	350.000	U
1,2,4-TRICHLOROBENZENÉ	UG/KG	350.000	U
NAPHTHALENE	UG/KG	350.000	U
4-CHLOROANTLINE	UG/KG	350.000	U
HEXAICHLOROBUTAD I ENE	UG/KG	350.000	U
4-CHLORO-3-METHYLPHENOL	UG/KG	350.000	υ
2-METHYLNAPHTHALENE	UG/KG	350.000	U
MEXACHLOROCYCLOPENT AD IENE	UG/KG	350.0D0	U
2,4,6-TRICHLOROPHENOL	UG/KG	350.000	Ũ
2,4,5-TRICHLOROPHENOL	UG/KG	860.000	Ü
2-CHLORONAPHTHALENE	UG/KG	350.000	ũ
2-NITROANILINE	UG/KG	860.000	ŭ
DIMETHYLPHTHALATE	UG/KG	350.000	Ŭ.
ACENAPHT HYLENE	UG/KG	350.000	ŭ
3-NITROANILINE	UG/KG	860.000	Ü
ACENAPHTHENE	UG/KG	350.000	Ŭ
ACEMAN IIIIENE	00, 20	2,0.0.00	

Verified \$ 3-15-94

Validated Data Summary, Data Package: 809817-TMA-628

	· · · · · · · · · · · · · · · · · · ·		
	*uma2	B098Y7	
	Date	10-7-93	
1	Location		•
	Depth		-
	Type		-
	Conments		•
Parameter	Units	Resul t	Q
2,4-DINITROPHENOL	UG/KG	860,000	U
4-NITROPHENOL	UG/KG	860,000	U
DIBENZOFURAN	UG/KG	350,000	U
2,4-DINITROTOLUENE	UG/KG	350.000	U
2,6-DINITROTOLUENE	UG/KG	350.000	U
DIETHYLPHTHALATE	UG/KG	350.000	U
4-CHLOROPHENYL-PHENYLETHER	UG/KG	350.000	U
FLUCIRENE	UG/KG	350.000	U
4-NITROANILINE	UG/KG	860.000	U
4,6-DINITRO-2-METHYLPHENOL	UG/KG	860.000	U
N-NITROSODIPHENYLAMINE	UG/KG	350.000	U
4-BROMOPHENYL-PHENYLETHER	UG/KG	350.000	U
HEXACHLOROBENIZENE	UG/KG	350.000	U
PENTACHLOROPHENOL	UG/KG	860.000	. U
PHENANTHIRENE	UG/KG	350,000	U
ANTHRAICENE	UG/KG	350.000	U
CARBAIZOLE	UG/KG	350,000	u
DI-N-BUTYLPHTHALATE	UG/KG	350.000	U
FLUORANTHENE	UG/KG	350.000	U
PYRENE	UG/KG	350.000	U
BUTYLBENZYLPHTHALATE	UG/KG	350.000	U
3,3'-DICHLOROBENZIDINE	UG/KG	350.000	U
BENZO(A)ANTHRACENE	UG/KG	350.000	U
BIS(2-ETHYLHEXYL)PHTHALATE	UG/KG	350.000	U
CHRY SENE	UG/KG	350.000	U
D1-N-OCTYLPHTHALATE	UG/KG	350.000	U
BENZO(B) FLUORANT HENE	UG/KG	350.000	U
BENZO(K) FLUORANT HENE	UG/KG	350.000	U
BENZO(A)PYRENE	UG/KG	350.000	υ
INDENO(1,2,3-CD)PYRENE	UG/KG	350.000	U
DIBENZ(A, H)ANTHRACENE	UG/KG	350.000	U
BENZO(G,H,1)PERYLENE	UG/KG	350.000	U
L	L		

X 3-18-94

-000080

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B098Y7 Lab Name: TMA/ARLI Contract: WHC Lab Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA Lab Sample ID: <u>A310014-01B</u> Matrix: (soil/water) SOIL 31021I03 Date Received: Level: (low/med) LOW___ 10/11/93 Date Extracted: 10/13/93 % Moisture: ____8 decanted: (Y/N) N___ Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/21/93 Dilution Factor: ____1.0 Injection Volume: _____2.0(uL) £". GPC Cleanup: (Y/N) Y pH: 9.6

CAS NO. COMPOUND

108-95-2----Phenol
111-44-4----bis(2-Chloroethyl) CONCENTRATION UNITS: (ug/L or ug/Kq) UG/KG 350 Ü 111-44-4----bis(2-Chloroethyl)Ether 350 U 95-57-8----2-Chlorophenol 350 U | 541-73-1----1,3-Dichlorobenzene 350 ΙU 106-46-7-----1,4-Dichlorobenzene_ 350 U 95-50-1-----1,2-Dichlorobenzene 350 ΙŪ | 95-48-7----2-Methylphenol 350 U | 108-60-1----2,2'-oxybis(1-Chloropropane) | 350 ΙU | 106-44-5-----4-Methylphenol 350 U 621-64-7----N-Nitroso-Di-n-Propylamine U 350 67-72-1-----Hexachloroethane 350 ΙU 98-95-3-----Nitrobenzene 350 Ū 78-59-1-----Isophorone 350 U 88-75-5----2-Nitrophenol 350 U 105-67-9----2,4-Dimethylphenol 350 ΙŪ 111-91-1----bis(2-Chloroethoxy)Methane ..350 U | 120-83-2----2,4-Dichlorophenol 350 120-82-1----1,2,4-Trichlorobenzene 350 U 91-20-3----Naphthalene 350 U 106-47-8-----4-Chloroaniline 350 U 87-68-3-----Hexachlorobutadiene 350 U 59-50-7----4-Chloro-3-Methylphenol____ 350 U 91-57-6----2-Methylnaphthalene 350 77-47-4-----Hexachlorocyclopentadiene 350 ΙŪ 88-06-2----2,4,6-Trichlorophenol_ 350 ! U 95-95-4----2,4,5-Trichlorophenol 860 91-58-7----2-Chloronaphthalene 350 U | -88-74-4----2-Nitroaniline 860 U 131-11-3-----DimethyIphthalate 350 208-96-8-----Acenaphthylene 350 ΙŪ 99-09-2----3-Nitroaniline 860 83-32-9-----Acenaphthene - 010 350 ΙÜ 51-28-5-----2,4-Dinitrophenol

FORM I SV-1

lection 15 3-15-14

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

		B098Y7	•
Contract:	WHC	 	

Lab Name: TMA/ARLI Lab-Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA

Lab Sample ID: <u>A310014-01B</u> Matrix: (soil/water) SOIL

Sample wt/vol: 30.4 (g/mL) GLab File ID: <u>31021I03</u>

Level: (low/med) LOW Date Received: 10/11/93

% Moisture: 8 decanted: (Y/N) N Date Extracted: 10/13/93

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/21/93

Injection Volume: _____2.0(uL) Dilution Factor: _____1.0

GPC Cleanup: (Y/N) Y pH: 9.6

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG

	CAB NO.		(49/15-01	ug/ Ng/	<u>047 KG</u>		Q
	1 100-02-7	4-Nitrophenol			860	l U	1
		Dibenzofuran		- i	350	Ü	i
	121-14-2	2,4-Dinitrotoluene		- <u>j</u>	350	İŪ	ì
	606-20-2	2,6-Dinitrotoluene_		- į	350	เบ	1
	84-66-2	Diethylphthalate		- <u>i</u>	350	ប	Ì
	7005-72-3	4-Chlorophenyl-phen	ylether	-i	350	iυ	i
	86-73-7	Fluorene	<u> </u>	- i	350	ប	İ
	100-01-6	4-Nitroaniline		i	860	U	i
	534-52-1	4,6-Dinitro-2-methy	lphenol	-i	860	iυ	i
	86-30-6	N-Nitrosodiphenylam	ine (1)	- į	350	ju	i
	101-55-3	4-Bromophenyl-pheny	lether	·	350	įυ	İ
	118-74-1	HexachTorobenzene		-1	350	<u>ו</u> ד	İ
-	87-86-5	Pentachlorophenol		-i	860	U	İ
	85-01-8	Phenanthrene		i	350	ប់	i
	120-12-7	Anthracene_		i	350	U	i
	86-74-8	Carbazole		-i	350	įψ	İ
	-84-74-2	Di-n-Butylphthalate		350	-230-	ستظ	ill
	206-44-0	Fluoranthene				ប្រ	
-	129-00-0	=Pyrene		Ī	350	İυ	3 13
	85-68-7	Butylbenzylphthalat	е	į	350	ប	1
	91-94-1	3,3'-Dichlorobenzid	ine	i	350	Ü	i
	56=55=3	Benzo(a)Anthracene		į	350	Ū	j
	117-81-7	bis(2-Ethylhexyl)Ph	thalate	į	350	iu	Ţ
	218-01-9	Chrysene		-	350	Ū	j
	117-84-0	Di-n-Octvl Phthalat	e	i	350	ប់	i
	205-99-2	Benzo(b) Fluoranthen	e		350	U	j
-	207=08-9	Benzo(k)Fluoranthen	e		350	ָוֹ ד	Ì
	50-32-8	Benzo(a)Pyrene		j		ับ	į
	193-39-5	Indeno(1,2,3-cd)Pyr	ene	i		เบ	İ
	53-70-3	Dibenz(a,h)Anthrace	ne	ij	350	เบ็	i
	191-24-2	Benzo(g,h,i)Perylen	e	i	350	Ū	-011
		<u>-</u> · · · · -		Ì		i	İ

FORM I SV-2

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

		i	B098Y7
Lab Name: TMA/ARLI	Contract	: WHC	
-Lab- Code: TMALA	Case No.: 10014 SAS No.	: NA SDG	No.: NA
Matrix: (soil/water)	SOIL	Lab Sample ID:	A310014-01B
Sample wt/vol:	30.4 (g/mL) G	Lab File ID:	31021103
Level: (low/med)	LOW	Date Received:	10/11/93
% Moisture: 8	decanted: (Y/N) N_	Date Extracted:	10/13/93
Concentrated Extract	Volume: <u>500.0</u> (uL)	Date Analyzed:	10/21/93
Injection Volume:	2.0(uL)	Dilution Factor	:
GPC Cleanup: (Y/N)	<u>У</u> рн: <u>9.6</u>		
Number TICs found:		NTRATION UNITS: or ug/Kg) <u>UG/KG</u>	

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	<u>Q</u>
1. 2. 3	UNKNOWN HYDROCARBON UNKNOWN HYDROCARBON PROPANOIC ACID ESTER HEXANEDIOIC ACID ESTER UNKNOWN ALKANE	5.33 5.87 -16.25 24.57 28.85	140 1800 320 180 110	BJ BJ J-J	

Revised 4-20-94

-012



ATTACHMENT 4

LABORATORY NARRATIVE and CHAIN-OF-CUSTODY DOCUMENTATION

Westinghouse	
Hanford Company	

9000	211
- Re 3	-18-94

Hanford Company	CHAIN OF CUS	IODY X
Custody Form Initiator	L E ROGERS	
•	ROGERS Teleph	none <u>376-76</u> 90
Project Designation/Samp	ing Locations 200-UP-2 Collect	tion Date 10-7-93
Ice Chest No. 5/11	CID	Logbook No. EFL-1091
Bill of Lading/Airbill No		te Property No.
	RNIGHT AIR SERVICE	
Shipped to TMA		
Possible Sample Hazards/F	temarks Keep samples at 4C (SOIL)	E NOTED
	Sample Identification	
7250ml aGs:VOA C 7250ml aGs:emi 7125ml G:Anion 7125ml G:Cyani 7125ml G:Cyani 7125ml G:Cyani 7125ml G:Cyani 7125ml G:Cyani 7125ml G:Cyani 7125ml P:CLP:T. 7250ml P:CLP:T. 7250ml aG:Semi 7125ml G:Anion 7125ml G:Cyani	VOA CLP s F,Cl,SO4 (EPA 300.0) s NO2,NO3 (EPA 353.2) de CLP ene (8015M) alpha/beta (EP-10), Gamma Spec to include,Cs-134,Cs-137,C -155,K-40,Ru-106,Na-22 (RC-30), Total Uranium (EA-01C) U-2 D1A_RC-622, EP-5) Pu-238,Pu-239/240 (EP-80, EP-81, EP-5) D9, RC-304) Tc-99 (RC-24, RC-604) Am-241,Cm-244 (EP-80, EP PCB (Pest AL Metals,Hg,Ti LP TOA GLE s F,Cl,SO4 (EPA 300.0) s NO2,NO3 (EPA 353.2)	135, U-234, U-238 (EP-70, EP-71, EP-5) NP- I-129 (RC-25, RC-605) Sr-90 (RC-306, RC- 1-90, EP-91, EP-92, EP-93, EP-5) Se-79 10-60, EU-152, 135, U-234, U-238 (EP-70, EP-71, EP-5) NP- I-129 (RC-35, RC-605) Sr-90 (RC-306, RC-
3) 1,250ml P:CLP;Ti 1,250ml 85:VOA C	AL Metals, Hg, Ti	70, 61 71, 61 72, 61 73, 62 73, 62 73
1,125ml P/G:Anion: 1,125ml G:Cyanion: 1,125ml Gw:Keros: 1,1000ml P/G:Gross	S F,Cl,SO4 (EPA 300.0) S NOZ,NO3 (EPA 353.2)	35,u-234,u-238 (EP-70, EP-71, EP-5) Np-1-129 (RC-25, RC-605) Sr-70 (RG-306, RC-
[] Field Transfer o	f Custody Chain of Possession	(Sign and Print Hames)
Relinquished by	10-6-93 Received by J6 HOGAN	Date/Time: 10-8-93 / 112Z
	DEAR H. NATE CI SO	Date/Time:
7 Hog And 70-8	43 1/350 July 25 THAT MORCAL	10-11-93 8:00
relinquished by:	Réceived by:	Date/Time:
Relinquished by:	Received by:	Date/Time:
	Final Sample Disposition	
Disposal Method:	Disposed by:	Date/Time:
Comments:		

A-6000-407 (12/90) (EF) WEF061 Chain of Custody 52742DAY (TENED 10/11/93)

-014

-000072

CASE NARRATIVE

LABORATORY : TMA/ARLI

CASE : 10-014

CONTRACT ID : WESTINGHOUSE HANFORD COMPANY

SDG RECEIPT DATE: October 11, 1993

1.0 DESCRIPTION OF CASE :

Two soil samples were analyzed for TCL Organics - Volatiles, Semivolatiles, and Pesticide/PCBs according to the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis, Revision-OLMO1.8. The Total Petroleum Hydrocarbons in the Kerosene range (K) were analyzed according to the SW-846 Method 8015M.

2.0 SAMPLE LIST :

WESTINGHOUSE ID	LAB ID	ANALYSIS REQUESTED	MATRIX
B098Y7	A3-10-014-01A	V	SOIL
B098Y7	A3-10-014-01B	SV	SOIL
B098Y7 MS	A3-10-014-01C	SV	SCIL
B098Y7 MSD	A3-10-014-01D	sv	SOIL
B098Y7	A3-10-014-01H	K	SOIL
_B098Y7 MS	A3-10-014-01T	· - K	SOIL
B098Y7 MSD	A3-10-014-01J	K	SOIL
B098Y7	A3-10-014-01K	P	SOIL
B098Y7 MS	A3-10-014-01L	P	SCIL
B098Y7 MSD	A3-10-014-01M	P	SOIL
B098Y9	A3-10-014-02A	V	SOIL
B098Y9 MS	A3-10-014-02B	Λ	SOIL
B098Y9 MSD	A3-10-014-02C	V	SCIL

3.0 COMMENTS :

SHIPPING AND DOCUMENTATION :

All of the samples were received intact and properly documented.

On October 23, 1993, the Westinghouse Hanford Company cancelled the analysis of samples 3098Y7 and 3098Y9, despite the fact that the Volatile samples had already been analyzed, and the samples were extracted for Semivolatiles, Pesticides, and Extractable Hydrocarbons: On November 3, 1993, TMA/ARLI, in accordance with ROD-93-0241, reinitiated the analyses and reporting of the aforementioned samples.

200073

3.2 ANALYSIS

3.2.1 VOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were analyzed by heated purge within the CLP SOW holding times.

All of the QC results were within the limits specified by the EPA CLP SOW.

TUNES :

All BFB tunes were injected directly into the GC/MS instrument.

3.2.2 SEMIVOLATILE ANALYSIS COMMENTS :

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times. No TCL analytes were detected in the samples.

All of the QC results were within the limits specified by the EPA CLP SOW.

3.2.3 PESTICIDE/PCB ANALYSIS COMMENTS :

SEQUENCE NOTES :

The sequence was started on 11/02/93 and was analyzed according to the USEPA CLP SOW. The sequence was analyzed by a single injection into a dual column system.

During the analysis sequence, the Autosampler malfunctioned, and after the injection of the PIBLKs and the PEMs, the sequence was continued. The %RSD for all of the analytes were within the QC limits on both of the GC columns, with the exception of alpha- and delta-BHC on the DB-608 column, which were slightly above 20% but less than the 30% limit.

Several Aroclor standards were injected throughout the sequence in order to confirm the presence of Aroclors in the samples. Although the retention times for some peaks exceeded their retention time window, the identification of each Aroclor was based primarily on the pattern recognition for each peak in the chromatogram.

All of the other QC criteria were within the limits specified by the EPA CLP SOW.

3-18-94

The chromatograms are presented in the manner consistent with the capabilities of the Nelson 2700 Turbochrome Data System which normalizes the largest peak to scale.

LOW LEVEL SOIL :

The samples were extracted and analyzed within the contract required holding times.

The TCX surrogate recoveries on the DB-608 column for samples B098Y7MS and B098Y7MSD were slightly below the advisory QC limits. However, the TCX recoveries on the DB-1701 column were higher for all of the samples in comparison to the DB-608 column, due to the interference peaks that coeluted with TCX on the DB-1701 column, therefore yielding higher recoveries. The %D between the two GC columns, for TCX in the spiked and unspiked samples, were greater than the 25% limit. The DCB recoveries on the two GC columns were comparable for all of the samples.

-All of the other QC results were within the limits specified by the USEPA CLP SOW.

3.2.4 TOTAL PETROLEUM HYDROCARBONS "KEROSENE RANGE" COMMENTS :

SEQUENCE NOTES :

The sequence was started on 12/01/93, with the injection of a continuing calibration, and was analyzed according to the SW-846 Method 8015M. The instrument calibration was performed on 11/18/93 with the injection of 5 different levels of the Kerosene standard. The %RSD for the initial calibration, and the %D for the continuing calibration were all within their respective QC limits as specified by the SW-846 Method 8015M. respectively.

SAMPLE NOTES :

LOW LEVEL SOIL :

The samples were extracted within the SW-846 holding time. However, the sample extracts were analyzed 10 days outside of the holding time due to laboratory miscommunication. The laboratory has taken the appropriate steps to ensure that this will not happen again. No Kerosene was detected in the samples.

Sample B098Y7 was spiked with Kerosene. The matrix spike recovery in-B098Y7MS was 61%, and 59% in sample B098Y7MSD. A blank spike, KLCS1014S, was prepared and analyzed at the same time, and had a 70% recovery.

All of the QC results were within the limits specified by the SW-846 Method 8015M.

We certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data in this hardcopy data package and in the computer readable data submitted on diskette is authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Nicole Roth 12/14/6

Maureen Parrish /2/14/93
Program Manager

ATTACHMENT 5 DATA VALIDATION SUPPORTING DOCUMENTATION

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	В	С	D	E
	200 UP-	-2	DATA PACKAGE	: BO98Y7-	TMA-628
VALIDATOR:		LAB: TY	Λ·A	DATE: 3-	-14-94
CASE:/O	-014"		SDG:		-
		- ANALYSES	PERFORMED		-
☐ CLP Volatiles	□ SW-846 8240 (cep column)	☐ SW-846 8260 (packed column)	Ø CLP Semivolatiles	☐ SW-846 8270 (cap column)	SW-846 (packed column)
0	0_	0			0
1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE Is technical verification documentation present? Note (Yes) No N/A Is a case narrative present? Yes No N/A Comments: (L. Performed by WHC.					
2. HOLDING TO Are sample ho	lding times a	cceptable? . Iding Tim	e Surama	ry page	es No N/A

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3.	INSTRUMENT TUNING AND CALIBRATION		
Is	the GC/MS tuning/performance check acceptable? Yes	No	N/A
Are	e initial_calibrations_acceptable? Yes	No	N/A
	e continuing calibrations acceptable? Yes	No	N/A
4.	BLANKS		
	re laboratory blanks analyzed?	No No	N/A N/A
Wer	re field/trip blanks analyzed? Note & Yes	No	N/A
	field/trip blank results acceptable? Yes	No	N/A
	ments: (1) Lab blank TIC's are present. See Met		
	commany page for results affecting sample TI		
(2)	The state of the s		
	this sample set but have been requested.	<u>Fie</u>	id C
<u> </u>	ACCURACY 3 Direbuty philled to raised to CRQL and qualified U.	ZINCK	e bic
Wer	e surrogates/System Monitoring Compounds analyzed? Yes	-No	than N/A
	surrogate/System Monitoring Compound recoveries acceptable? (Yes)	No	N/A
	e MS/MSD samples analyzed? Yes	No	N/A
	MS/MSD-results acceptable? Yes	No	N/A
Con	ments:		
		·	
_			
_			

GC/MS ORGANIC DATA VALIDATION CHECKLIST

		N/A N/A
		N/A)
	in this sample set, but it has been requested. QC will be evaluated in the final data summar	
	7. SYSTEM PERFORMANCE	
		N/A
		N/A
	Are internal standard retention times acceptable? Yes No Comments:	N/A
		
_	8. COMPOUND IDENTIFICATION AND QUANTITATION	
		N/A
-	Is compound quantitation acceptable? Yes No Comments:	n/a
	9. REPORTED RESULTS AND QUANTITATION LIMITS	
	12 27 27 27	N/A
	Day years The second of the second of	N/A /-
	the Abe 7 to	N/A
	Comments: The walkers alkane Tics have been	N/A Nicl
aH	qualified as presumptive and estimated according	<u></u>
-7 (to WHC validation Procedure.	<u>す</u>
	00015-00-44-00	9

A-3

023

sog: 609847	-TMA-6:28	VALIDATOR:	VALIDATOR: T. Stapp			PA	PAGE 1 OF 1	
COMMENTS:				7			1	
FIELD SAMPLE	ANALYSIS TYPE	DATE SAMPLED	DATE PREPARED	DATE ANALYZED	PREP. HOLDING TIME, DAYS	ANALYSIS HOLDING TIME, DAYS	QUALIFIER	
B098Y7	SemilOA	10-7-93	10-13-94	10-21-93	<14 8 XZ	< 40	NONE	
	,			· .			:	
	'							
					:			
	:							
					:			

METHOD BLANK SUMMARY

EPA SAMPLE NO

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

SBLK1013S1

Contract: WHC Lab Name: TMA/ARLI Lab Code: TMALA Case No.: 10014 SAS No.: NA SDG No.: NA Lab Sample ID: A310014-BLK Matrix: (soil/water) SOIL_ 30.3 (g/mL) G Lab File ID: 31021102 Sample-wt/vol: Level: (low/med) LOW_ Date Received: % Moisture: _____ decanted: (Y/N) N ___ Date Extracted: 10/13/93 Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 10/21/93 Injection Volume: 2.0(uL) _______Dilution Factor: __ ___1.0 GPC Cleanup: (Y/N) <u>Y</u> pH:

Number TICs found: 4

CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>

CAS NUMBER	COMPOUND NAME	RT =======	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	5.28	130	J
1 2.	UNKNOWN HYDROCARBON	5.83	1500	[J]
3.	HEXANEDIOIC ACID ESTER	24.53	99	[J]
4	PROPANOIC ACID ESTER	16.22	260	J [
		l	·	

All TIC's found Gualify associated Sample Bogsy7 Tic's as non-detected (u) when less than 5 x the method blankamount as undetected, presumptive and valid. (UIN).

FORM I SV-TIC

3/90